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ABSTRACT

Goal 4 of the National Education Goals envisions that teachers will have access to programs for the continued improvement of their professional skills. This book examines what federal agencies are doing to enhance teacher preparation, presents information on career-long development, and offers program descriptions and contact names. The first section of the book introduces the subjects of professional development and federal assistance and describes formula and discretionary grant programs. The second section, which comprises most of the book, provides information on programs administered by the U.S. Departments of Education, Agriculture, Commerce, Defense, Energy, Health and Human Services, the Interior, Justice, Transportation, and Veterans Affairs, and by independent agencies (Environmental Protection Agency, NASA, National Endowment for the Arts, National Endowment for the Humanities, National Science Foundation, and the Smithsonian Institution). Nine appendices list additional sources of assistance; Appendix 10 provides a report of the Goal 4 Resource Group. (SM)

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Achieving the Goals

Goal 4

Teacher Education and Professional Development

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FOREWORD

In 1989, the nation's governors and President Bush met in Charlottesville, Virginia, to determine how best to prepare all Americans to meet the challenges of the 21st century. The result of this historic conference was the adoption of six National Education Goals. With the enactment of the GOALS 2000: Educate America Act in March 1994, Congress added two additional goals. GOALS 2000 is premised on the deeply-held belief that ALL students are capable of higher levels of learning and development. In order for all students to achieve their full potential, however, teachers must have access to high-quality preservice and continuing professional development opportunities.

Achieving the Goals: Goal 4 is the second in a series of eight books being produced by the U.S. Department of Education to help inform people involved in education improvement of the myriad of programs and resources that are available from the federal government to support each of the National Education Goals. At least twenty-eight Departments and agencies are now funding programs that support one or more of the goals. We have prepared this Goal 4 guide with a particular focus on pre-K to 12 education. The guide is intended to inform both practitioners in the nation's schools and school districts and policy makers about the resources available at the federal level to support efforts to improve initial teacher preparation and ongoing professional development.

At the same time, the guide also identifies those federal programs and activities that support teacher preparation and professional development across the entire educational spectrum. Inside you will find what federal agencies are doing to enhance teacher preparation and career-long development, along with program descriptions, contact names, and an appendix listing additional sources of assistance. Ideally, the Department's efforts to bring coherence to federal professional development programs will encourage similar collaboration and coordination at the state and local levels.

The U.S. Department of Education and other federal agencies are committed to helping communities across America to achieve the National Education Goals. I am confident you will be impressed by the range of federal resources available and hope you will find this Goal 4 guide an important tool as you work to improve teaching and learning in your community.

Richard W. Riley
Secretary of Education

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National Education Goals

By the year 2000 --

ALL CHILDREN in America will start school ready to learn.

THE HIGH SCHOOL graduation rate will increase to at least 90 percent.

ALL STUDENTS will leave grades 4, 8, and 12 having demonstrated competency over challenging subject matter including English, mathematics, science, foreign languages, civics and government, economics, the arts, history, and geography, and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy.

THE NATION'S teaching force will have access to programs for the continued improvement of their professional skills and the opportunity to acquire the knowledge and skills needed to instruct and prepare all American students for the next century.

UNITED STATES students will be first in the world in science and mathematics achievement.

EVERY ADULT American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.

EVERY SCHOOL in the United States will be free of drugs, violence and the unauthorized presence of firearms and alcohol and will offer a disciplined environment conducive to learning.

EVERY SCHOOL will promote partnerships that will increase parental involvement and participation in promoting the social, emotional, and academic growth of children.

GOAL 4: *By the Year 2000, the Nation's teaching force will have access to programs for the continued improvement of their professional skills and the opportunity to acquire the knowledge and skills needed to instruct and prepare all American students for the 21st century.*

(From the National Education Goals, which Congress adopted for the nation in March, 1994)

Introduction

Why Professional Development?

These are times of considerable promise and challenge for all who work in education. As we approach the 21st century, the nation has come to understand that raising the achievement level of all students, from pre-Kindergarten through adult learners, is essential to America's future economic security and social well-being. States and school districts throughout the nation are busy re-designing their education programs around basic principles of school reform: high content standards and expectations for all students, and authentic measures to determine whether students are achieving. Some are doing this on their own. Others are using funds that the Department provides to States under the Goals 2000: Educate America Act, a voluntary program that Congress established in 1994.

Under Goals 2000, effective state and local reform plans include strategies for enabling teachers to obtain the skills they need to provide high-quality instruction within core academic subjects so that students can meet established performance standards. But, because they are the crucial links between challenging content standards and the students who are to master them, strategies to ensure that teachers have the knowledge and skills needed to do their jobs - in short, high-quality professional development - will need to be a part of *any* successful school reform strategy, whether based on Goals 2000 or other state or local initiatives. Too often what is ignored in discussions of higher standards for students is the corresponding role that teachers must play. Whatever the school reform initiative, teachers are the core. Therefore, educators must be committed to their profession, and be prepared to deliver first-class standards to an increasingly diverse group of students.

Schools and society have changed dramatically. One need only think of technology to realize just how massive the changes have been. For example, the personal computer was not even invented when most educators went through their preparation programs. In addition, the increasing diversity of American students, the societal changes that have negatively impacted learners and schools, and the growing body of new research on how students learn, makes the need for professional development clear. Doctors respond to scientific and medical advances through continuing education; teachers must be given the same opportunity.

Too often, however, professional development has been handled like a passing fad rather than an integral part of a long-term reform strategy. It has been viewed as a fringe benefit, the first thing to be cut when budgets are tight. Logically, however, we cannot expect teachers to teach to higher standards and to respond to the challenges facing education today, without helping them acquire new knowledge and skills to do so.

Professional Development That Works

But what kind of knowledge and skills? And how should they be taught? The answers to these questions are critical. Every school and district is being asked to demonstrate that it can raise levels of student achievement at a time when resources are harder to find. No one can afford to waste time or money in designing, implementing, and paying for ineffective practice. The twin imperatives of education reform and tight budgets calls for a coherent, comprehensive and innovative approach to professional development.

What is needed is professional development that is dramatically different, not just in content, but also in form of delivery and level of commitment. To begin, professional development should be aligned with student content standards and be designed as a career-long continuum. It must begin with a high-quality teacher education program that attracts talented and diverse candidates, prepares them well, provides them with support during induction, and helps experienced teachers continuously update their knowledge and skills throughout their careers. In other words, it accomplishes the same thing for teachers that we are trying to achieve for students -- lifetime learning. And that learning must move beyond the "sit and get" model of one-shot workshops, conferences, in-service days, and graduate courses that have no connection with the real work of schools. Professional development should be ongoing, intensive, and an integral part of a teacher's regular work day. Activities such as self study, group study, inquiry into practice, action research, and consultation with peers and supervisors are all examples of the new vision of professional development that is being advocated to support reform efforts. In addition, professional development should demonstrate a positive correlation with increased teacher effectiveness and improved student achievement.

Realizing that high-quality professional development must be at the core of any effort to achieve educational excellence, Secretary Richard W. Riley directed a broadly representative team within the U.S. Department of Education to examine the best available research and exemplary practices related to professional development, and work with the field to develop a set of basic principles of high-quality professional development. Out of this national effort conducted during 1994 and 1995 came the following statement of Mission and Principles. They are grounded in the practical wisdom of leading educators across the country about the kind of professional development that, if implemented, maintained, and supported, will have a positive and lasting effect on teaching and learning in America.

Mission and Principles of Professional Development

Professional development plays an essential role in successful education reform. Professional development serves as the bridge between where prospective and experienced educators are now and where they will need to be to meet the new challenges of guiding all students in achieving to higher standards of learning and development.

High-quality professional development as envisioned here refers to rigorous and relevant content, strategies, and organizational supports that ensure the preparation and career-long development of teachers and others whose competence, expectations and actions influence the teaching and learning environment. Both pre- and in-service professional development require partnerships among schools, higher education institutions and other appropriate entities to promote inclusive learning communities of everyone who impacts students and their learning. Those within and outside schools need to work together to bring to bear the ideas, commitment and other resources that will be necessary to address important and complex educational issues in a variety of settings and for a diverse student body.

Equitable access for all educators to such professional development opportunities is imperative. Moreover, professional development works best when it is part of a system wide effort to improve and integrate the recruitment, selection, preparation, initial licensing, induction, ongoing development and support, and advanced certification of educators.

High-quality professional development should incorporate all of the principles stated below. Adequately addressing each of these principles is necessary for a full realization of the potential of individuals, school communities and institutions to improve and excel.

The mission of professional development is to prepare and support educators to help all students achieve to high standards of learning and development.

Professional Development:

... *focuses on teachers as central to student learning, yet includes all other members of the school community;*

... *focuses on individual, collegial, and organizational improvement;*

... *respects and nurtures the intellectual and leadership capacity of teachers, principals, and others in the school community;*

... *reflects best available research and practice in teaching, learning, and leadership;*

... *enables teachers to develop further expertise in subject content, teaching strategies, uses of technologies, and other essential elements in teaching to high standards;*

... *promotes continuous inquiry and improvement embedded in the daily life of schools;*

... *is planned collaboratively by those who will participate in and facilitate that development;*

... *requires substantial time and other resources;*

... *is driven by a coherent long-term plan;*

... *is evaluated ultimately on the basis of its impact on teacher effectiveness and student learning; and this assessment guides subsequent professional development efforts.*

Reforming our practice to achieve excellence in teaching and learning for all students will not be easy. Change never is. But, building a professional development program aligned to these principles will ensure that teachers and other educators have access to the knowledge and skills that they need to help all of their students achieve to high standards.

Tapping The Full Potential of Federal Assistance

The Limited Role of Federal Programs
Although the U.S. Department of Education and other federal agencies administer programs to support state and local efforts to improve education, the federal role is limited. Federal programs exist to help promote excellence and equity in education, but they support rather than substitute for the school and district's own program of instruction. The federal government does not -- and cannot -- make decisions about what students should learn and how teachers should teach. These are state and local decisions. Moreover, the total federal contribution to pre-K - grade 12 education is only a small fraction of the nation's spending on public education. Therefore, successful strategies for raising levels of student achievement, and for bringing the Mission and Principles of Professional Development to life, depend upon local (and state) imagination, initiative and careful use of resources. Nonetheless, resources of federal programs can play a significant role in helping schools and districts fill existing gaps and improve the overall quality of their school improvement -- and professional development -- efforts. Indeed, recent changes in law now permit schools and districts to use funds that they already receive under many federal programs to support high-quality professional development activities.

Building an Integrated Professional Development Strategy

Most educators know about the Eisenhower Professional Development Program, the only federal program specifically designed to support high-quality professional development activities in all school districts in the nation. The program is important for the funding that it provides, for the visibility that it gives to best practice, and the flexibility it offers districts.

However, a number of reasons compel us to think beyond the Eisenhower Program to a coordinated approach of integrating federal programs. The first and most obvious reason is money. Eisenhower is simply much too small to enable districts to make high-quality professional development available to all teachers. Beyond this, if federal programs like Title I, migrant education, adult and vocational education, programs for homeless children, and safe and drug-free schools are truly to help particular subgroups of students achieve challenging content standards, teachers and other staff who work with those students must receive the kinds of high-quality professional development that they need to do their jobs. Since each of these programs now clearly authorizes the use of program funds for needed professional development, it makes sense to look to them to help defray the costs of high-quality professional development activities.

Perhaps most important, no one federal program can address all of the needs students may have. Children served by Title I, for example, also may be limited English proficient, migrant, disabled, and in need of a safe and drug-free learning environment. Therefore, they would need the special support of more targeted programs. Plainly, if there is to be order rather than chaos, the various professional development activities supported by each program will need to be brought together as part of a coherent plan for school change and improvement. Recent changes in the Elementary and Secondary Education Act (ESEA) [reauthorized as the Improving America's Schools Act] give schools and districts a number of new tools for integrating the help provided by many Department of Education programs into the school or district's own professional development strategies. These tools include:

- **Broader Program Authority to Focus on Improved Teaching and Learning** The ESEA (and other laws) now emphasize the availability of funds under many programs to support professional development that teachers need to provide program services effectively.

- **Schoolwide Programs** The Title I statute authorizes schools in high poverty areas to use Title I, Part A funds along with funds provided by most other federal programs, to upgrade the entire education program of a school. As a schoolwide program, the school would use the funds it receives under nearly all Federal programs (except the Individuals With Disabilities Education Act (IDEA)) as a common pool of resources. Federal funds used in the schoolwide program would have to supplement resources that the school otherwise would have available from non-Federal funds. But instead of being separately tracked, the school only would have to ensure that where a particular federal program contributes to the schoolwide program, the school's activities meet the intent and purposes of that program (rather than the program's individual requirements.

- **Availability of Waivers.** While ESEA programs now are very flexible, there may be situations in which a program's requirements seem to impede a school or district's ability to increase student achievement. Therefore, the ESEA authorizes the Secretary to waive most program statutes and regulations that a school, district, or state education agency demonstrates is hampering its efforts to improve teaching and learning, including funding for and implementation of high-quality professional development activities. In addition, both the Goals 2000: Educate America Act and the School to Work Opportunities Act authorize the Secretary of Education to waive certain statutory and regulatory provisions of the ESEA and the Perkins Vocational and Applied Technology Act. Under Ed-Flex (the Education Flexibility Partnership Demonstration Program), the Secretary of Education has granted six state education agencies the authority to waive these same provisions. These states are: Oregon, Massachusetts, Kansas, Ohio, Texas and Vermont.

- **Consolidated Local Plans.** The ESEA also invites districts and state education agencies to revamp the very ways in which they plan the use of Federal program funds. Districts (and states) are no longer required, as a condition of receiving federal formula grant funds, to develop and submit a separate and detailed plan or application for each federal program in which it wants to participate. Instead, for most formula grant programs, the ESEA now permits the use of a single consolidated plan that focuses specifically on what the district will do to promote cross-program coordination, integration of service provided under those programs with State and local-sponsored activities, and improved service delivery. Use of a consolidated plan does not eliminate federal program requirements and does not authorize commingling of program funds. Consolidated planning does, however, encourage thinking about how *all* of the individual federal programs included in the plan, notwithstanding their distinct purposes and different beneficiaries, can fit together and support the district's own program to improve teaching and learning.

These new areas of flexibility offer creative opportunities to use the resources provided by various federal programs so that those programs fit not only the overall education reform strategies that schools and districts develop, but also their overall approach to professional development.

Finding The Resources - Formula Grant Programs

Federal formula grant programs provide funding to districts throughout the nation either to provide additional support for underserved groups of children or to help schools and districts address areas of particular need. Generally, each grant program requires prior submission of a plan or application, and has its own basic requirements that govern how and for whom funds may be spent. Within these limitations, grant programs may provide schools and districts with promising sources of additional resources for supporting their professional development activities.

The following descriptions of the Department of Education's formula grant programs are intended only to focus on how funds that these programs provide to districts can be used to support school or district professional development programs. Funding formulas and eligibility rules determine the amount of funds that any particular district actually receives. Since all of these programs are administered by the state, more information on the programs and any special requirements that they may have regarding use of funds may be obtained from the state education agency, or, in the case of the Perkins Act program, from the state board for vocational education.

The Dwight D. Eisenhower Professional Development Program
(Title II, Part B ESEA)

The Eisenhower Program is the federal government's largest program devoted specifically to enhancing the professional development of teachers and other school staff. The reauthorized Eisenhower Program, which replaces the former Eisenhower Mathematics and Science Education Program, supports state and local efforts to stimulate and provide sustained and intensive high-quality professional development in all of the core academic subjects. Under Eisenhower, districts receive funding to carry out activities that are consistent with local needs, and have very wide discretion in determining the activities that will best enable all teachers to obtain the skills and knowledge they need to help all students achieve to high standards. Eisenhower funds must pay for no more that two-thirds of the cost of activities that they support; districts may pay the remaining costs with funds from state and local sources, other federal funds (such as Title I), cash and in-kind contributions.

Helping Disadvantaged Children Meet High Standards
(Title I, Part A, ESEA)

Title I, the largest federal education program for pre-K through 12 education, has one overriding goal: to improve teaching and learning for children in high-poverty schools to enable them to meet challenging academic content and performance standards. Under the Program, funds are provided to districts to help close the achievement gap between high- and low-poverty schools by targeting additional resources on districts based on their number of poor children. To receive Title I funds, districts must have a plan under which every aspect of the education system -- curriculum and instruction, professional development, school leadership, accountability and school improvement -- are coordinated with state and local reform efforts. Within this framework, districts and schools have great flexibility in deciding how to use their Title I funds, including the amount of Title I funds they devote to professional development of teachers and other staff who work with disadvantaged students. Moreover, schools in high-poverty areas that adopt schoolwide programs can combine all of their resources to support a comprehensive reform effort that includes professional development for all of the school's teachers.

Education of Migratory Children
(Title I, Part C, ESEA)

The Migrant Education Program (MEP) provides supplemental assistance for high-quality programs for students who migrate to enable themselves or a family member to obtain temporary or seasonal agricultural or fishing work. The MEP reduces educational disruptions and other problems that result from repeated moves, helping these children overcome problems that inhibit their ability to meet challenging content and performance standards. The MEP is operated by the state through subgrants to school districts and other agencies that need additional funds to support special activities for migrant students during periods in which they reside in that area. Local districts are responsible for integrating MEP services with services provided by other ESEA and federal programs, but may use MEP funds in a wide variety of ways, if approved by the state, to meet the identified needs of migrant children. To the extent feasible, districts that receive MEP funds must provide for professional development programs that include mentoring for teachers and other school personnel who work with migrant students.

Safe and Drug-Free Schools and Communities
(Title IV, Part A, ESEA)

This program supports comprehensive school- and community-based drug education and prevention activities, as well as activities designed to prevent violence. Funds are available to all districts on the basis of school enrollment, with additional funds being made available for districts that the state finds to be "high-need." Districts that use Safe and Drug-Fee Schools and Communities money must assess needs and measure program outcomes, but may implement a broad range of age-appropriate prevention activities, including professional development of school personnel in prevention strategies and curriculum.

Innovative Education Program Strategies (Title VI, ESEA)

Title VI provides funds to permit districts to support activities that encourage school reform and educational innovation. It makes funds available to all districts in the nation on the basis of school enrollment, with some weighting to districts with particularly high costs. Under this program, districts have the flexibility to use funds for any of the following primary areas: (1) technology related to implementing reform; (2) acquisition and use of instructional and educational material; (3) promising educational reform projects such as magnet schools; (4) programs for at-risk children; (5) literacy programs for students and their parents; (6) programs for gifted and talented students; (7) reform efforts consistent with Goals 2000; and (8) school improvement programs or activities authorized under the Title I program. Title VI funds may be used to support high-quality professional development that is related to any of these areas.

Individuals With Disabilities Education Act (IDEA) Part B

The IDEA, Part B provides funds to districts to help pay for the additional costs of programs that are needed to enable all children with disabilities, regardless of the level of severity of this disability, to receive a free and appropriate public education and to secure full education opportunities. The program makes funds available to all districts in a state on the basis of their relative number of students with disabilities receiving special education and related services. IDEA, Part B requires districts that receive funds to provide certain basic procedural safeguards for children with disabilities and their parents, as well as comprehensive plans for how the district will address the needs of its disabled students. These plans may include use of IDEA, Part B funds for professional development activities that will give teachers and other staff the skills that they need to enable their students with disabilities to have increased levels of academic achievement.

Carl D. Perkins Vocational Education Act (Title II, Part C)

This program provides funds to school districts and other entities to help support secondary school vocational education programs that the districts implement either by themselves or in conjunction with an area vocational education school or an intermediate education agency. The amount of Perkins funds that a district is eligible to receive depends on the relative size of its Chapter I allocations, the number of students with individualized education programs, and the number of students enrolled in schools and adults in training programs. School districts must submit an application to the state board for vocational education that describes their plans for using program funds in ways that give priority to special population; uses of funds may include professional development of vocational instructors, and academic instructors working with vocational education students, that focuses on integrating vocational and academic instruction. As of June, 1996, Congress is considering changes to the Perkins program and ways in which states and local providers offer vocational education assistance.

Finding The Resources - Discretionary Grant Programs

Federal discretionary grant programs are another potential source of both financial and technical support for a school or district's professional development activities. However, unlike formula grant programs that are broad in scope and provide funding to all districts meeting basic eligibility requirements, discretionary grant programs typically are narrowly focused. Federal agencies use their discretion to support only outstanding applicants, and increasingly seek to fund only activities that reflect best practice or are most likely to yield significant results. Thus, the agencies tend to make awards under discretionary grant programs to institutions, schools, or teachers with clear ideas on how they would use additional funds to improve teaching and learning.

Discretionary grant programs generally are much smaller in size than formula grant programs. However, since program funding generally is spread among very few recipients, those that receive awards will have more money at their disposal. For school districts, this means that while winning a discretionary grant competition may be difficult, those who receive awards typically get far more funding than they would under a formula grant program.

The following program descriptions reflect the federal government's principal discretionary grant programs that can support professional development activities. Many are programs that can provide financial support for particular kinds of professional development activities. Others such as the regional technology in education or Eisenhower regional mathematics and science consortia tha the Department of Education is supporting, can provide significant technical assistance. Still others can provide materials in very specific curriculum content areas. For the benefit of the wider audience, these program descriptions include programs at all levels of the education spectrum that support professional development, teacher preparation and improved skills and knowledge of individual teachers. Programs that may have particular usefulness at the school or school district level have been designated with an asterick (*).

Most of these programs are administered directly by the U.S. Department of Education or another federal agency, although a few are administered directly by a state agency. The administrator of the program regularly announces application due dates, project duration, and any special conditions or requirements governing the grant competition and use of funds. More information on each program can be obtained through the contact identified, and general information on federal agency procedures for making discretionary grant awards can be found in the Appendix I starting on page 99.

U.S. Department of Education

Goals 2000

Preservice Teacher Education and Professional Development Activities*

Funds awarded to State education agencies and, through subgrants, to school districts are available to help develop and implement comprehensive state and local improvement plans that include strategies for promoting quality professional development. In addition, the GOALS program provides separate financial assistance to school districts through subgrants from the State education agency to support continuing and sustained professional development programs that will increase student learning, and to improve teacher education programs, consistent with the GOALS 2000 State improvement plan Each State educational agency funds these activities on a competitive, peer-reviewed, basis out of a portion of the GOALS 2000 grant that it receives from the Department.

For more information, contact the state education agency.

Adult Education

Special Demonstration and Teacher Training Projects*

States administer two categories of local-level projects. Experimental demonstration projects that involve the use of innovative methods, systems, materials, or programs that may have national significance or will be of special value in promoting effective adult education programs; and projects that train professional teachers, volunteers, and administrators, with a particular emphasis on full-time professional adult educators, minority adult educators, and teachers of adults with limited English proficiency, learning disabilities, or serious reading deficiencies. Eligible applicants include school districts, community-based organizations, public and private nonprofit agencies and institutions of higher education.

George Spicely, Frances Littlejohn, or Laurette Crum
Division of Adult Education and Literacy
600 Independence Avenue, SW
Washington, DC 20202-7240
Phone: (202) 205-9685
Fax: (202) 205-8973
Internet: George_Spicely@ED.Gov

Bilingual Education/Foreign Language Education

Academic Excellence Awards*

Provides financial assistance for the dissemination of programs of bilingual education or special alternative instruction and professional development programs that demonstrate promise of assisting children and youth of limited English proficiency to meet challenging state standards. Grants may be made to state and local educational agencies, nonprofit organizations, and institutions of higher education.

Mary T. Mahony
Office of Bilingual and Minority Languages Affairs
MES Building, Room 5082
600 Independence Avenue, SW
Washington, DC 20202-6510
Phone: (202) 205-8728

Bilingual Education Program Development and Implementation Grants*

Provides grants to develop and implement new comprehensive, coherent, and successful bilingual or special alternative instructional programs for limited English proficient (LEP) students. Programs of instruction may include early childhood, kindergarten through twelfth grade, gifted and talented, and vocational and applied technology. Eligible applicants include one or more local education agencies applying alone or in collaboration with an institution of higher education, community based organizations or a local or state education agency. A community based organization or institution of higher education, with the approval of a local education agency, may apply the grant to develop family education programs, early childhood education programs or supplemental instructional programs for LEP students.

James H. Lockhart
Office of Bilingual Education and Minority Languages Affairs
MES Switzer Building, Room 5625
600 Independence Avenue, SW
Washington, DC 20202-6510
(202) 205-5426

Bilingual Education Program Enhancement Grants*

Provides grants to carry out highly focused, innovative, locally designed projects to expand or enhance existing bilingual education or special alternative instruction programs for limited English proficient (LEP) students. Eligible applicants include one or more local educational agencies applying alone or in collaboration with an institution of higher education, community based organization or state educational agency. In addition, a community-based organization or institution of higher education with the approval of a local education agency may apply to enhance family education programs, early childhood education programs, or supplemental instructional programs for LEP students.

Diane DeMaio
Office of Bilingual Education and Minority Languages Affairs
MES Switzer Building, Room 5625
600 Independence Avenue, SW
Washington, DC 20202-6510
(202) 205-5716

Bilingual Education Teachers and Personnel Grants*

Makes grants to provide preservice and in-service professional development for bilingual teachers, administrators, pupil services personnel, and other educational personnel who are either involved in, or preparing to be involved in, the provision of educational services for limited English proficient students. Makes grants to provide for national professional development institutes that assist schools or departments of education in institutions of higher education to improve the quality of professional development programs for personnel serving, preparing to serve, or who may serve limited English proficient students. Grants may be made to institutions of higher education that have consortia arrangements with local or state education agencies; state education agencies; and local education agencies for in-service professional development programs.

Cindy Ryan
U.S. Department of Education
Office of Bilingual and Minority Languages Affairs
MES Building, Room 5082
600 Independence Avenue, SW
Washington, DC 20202-6510
Phone: (202) 205-8842

Comprehensive School Grants*

Makes funds available to assist in the implementation of schoolwide bilingual education or special alternative instructional programs for reforming, restructuring, and upgrading all relevant programs and operations, within an individual school, that serve all (or virtually all) children and youth of limited English proficiency in schools with significant concentrations of such children and youth. Grants be made to one or more local education agencies applying alone or in collaboration with an institution of higher education, community-based organizations, or a local or state education agency.

Rebecca Richey or Alex Stein
U.S. Department of Education
Office of Bilingual and Minority Languages Affairs
MES Building, Room 5082
330 C Street, SW
Washington, DC 20202
Phone: (202) 205-9717, (202) 205-5713, respectively.

Field-Initiated Research*

Makes funding available to carry out field-initiated research conducted by current or recent recipients of Title VII grants. This research may provide for longitudinal studies of students or teachers in bilingual education, or monitoring the education of the students from entry in bilingual education through secondary school completion. Current or recent recipients of Title VII grants under subpart 1 or 2 (Bilingual Education Capacity and Demonstration Grants; and Bilingual Education Research Evaluation, and Dissemination) who have received grants within the previous 5 years.

Tim D'Emilio or Millie Lanauze
U.S. Department of Education
Office of Bilingual and Minority Languages Affairs
MES Building, Room 5082
600 Independence Avenue, SW
Washington, DC 20202
Phone: (202) 205-8739, (202) 205-9475, respectively

Foreign Language Assistance Program*

Makes grants available to establish, improve, or expand foreign language programs for elementary and secondary students. Local education agencies and state education agencies may apply for grants.

Petraine Johnson or Ursula Lord
U.S. Department of Education
Office of Bilingual and Minority Languages Affairs
MES Building, Room 5082
600 Independence Avenue, SW
Washington, DC 20202-6510
Telephone: (202) 205-8766 or (202) 205-5709, respectively.

Fulbright-Hays Training Grants -- Faculty Research Abroad

Provides opportunities for faculty members to conduct research and study abroad in foreign languages and area studies in order to develop research knowledge and capability in world areas not commonly taught in U.S. institutions. Institutions of higher education (faculty members must apply through their employing schools).

Linda Byrd Johnson
Center for International Education
Advanced Training and Research Branch
2100 Corridor, L'Enfant Plaza, SW
Washington, DC 20202
Telephone: (202) 401-9775.

Fulbright-Hays Seminars Abroad Program

Increases mutual understanding between people of the United States and other countries by offering qualified American educators opportunities to participate in short-term seminars abroad. Undergraduate faculty members from postsecondary institutions whose professional activities primarily include teaching introductory courses in the humanities or social sciences; secondary school social studies teachers; administrators and curriculum specialists of state or local education agencies with direct responsibility for curriculum development in social studies.

Linda Byrd Johnson
Center for International Education
Advanced Training and Research Branch
L'Enfant Plaza, SW, 2100 Corridor
Washington, DC 20202
Phone: (202) 401-9775.

Graduate Fellowships Program

Provides financial assistance to individuals who are pursuing master's, doctoral, or postdoctoral study in areas related to instruction of limited English proficient children and youth in such areas as teacher training, program administration, research and evaluation, and curriculum development. Assistance may also be provided for the support of dissertation research related to such study. Institutions of higher education. Individuals who meet the eligibility requirements may apply for a fellowship through an institution participating in the program.

Joyce Brown
U.S. Department of Education
Office of Bilingual and Minority Languages Affairs
MES Building, Room 5082
600 Independence Avenue, SW
Washington, DC 20202-6510
Phone: (202) 205-9727

Systemwide Improvement Grants*

Makes funds available to assist in the implementation of districtwide bilingual education or special alternative instructional programs to improve, reform, and upgrade relevant programs and operations, within an entire local education agency that serves a significant number of children and youth of limited English proficiency. Applicants may include one or more local educational agencies applying alone or in collaboration with an institution of higher education, community-based organizations, other local educational agencies, or state educational agency.

Harry Logel or Jim Lockhart
U.S. Department of Education
OBEMLA, Fifth Floor, Switzer Building, SW
Washington, DC 20202
Phone: (202) 205-5530 and (202) 205-5426

Training for All Teachers Program*

Makes grants to provide for the incorporation of courses and curricula on appropriate and effective instructional and assessment methodologies, strategies, and resources specific to limited English proficient students into preservice and inservice professional development programs for teachers, pupil personnel services, administrators, and other educational personnel in order to prepare individuals to provide effective services to limited English proficient students. Institutions of higher education, local education agencies or state education agencies, or nonprofit organizations that have consortia arrangements with one of the institutions or agencies.

Cindy Ryan
U.S. Department of Education
OBEMLA, Fifth Floor, Switzer Building, SW
Washington, DC 20202
Telephone: (202) 205-8842

Undergraduate International Studies and Foreign Language Program

Awards grants to institutions of higher education to assist in planning and carrying out programs to strengthen and improve undergraduate instruction in international studies and foreign languages. Grants are also awarded for model programs and to nonprofit agencies and organizations for projects that will significantly contribute to undergraduate instruction. Institutions of higher education; combinations of such institutions; public and private nonprofit agencies and organizations.

Ms. Christine Corry
U.S. Department of Education
Center for International Education
International Studies Branch
Suite 600, Portals Building, SW
Washington DC 20202
Telephone: (202) 401-9798

Civil Rights

Title IV of the Civil Rights Act of 1964*

Provides funds for technical assistance, where requested, to school districts faced with issues arising as a result of school desegregation. Technical assistance may include appropriate teacher training needed to implement a desegregation program.

Arthur Cole
U.S. Department of Education
Office of School Improvement Programs
Office of Elementary and Secondary Education
Room 4500, Portals Building
1250 Maryland Avenue, SW
Washington, DC 20202
Phone: (202) 260-3693

Equity

Magnet Schools Assistance in Desegregating Districts*

Assists eligible local education agencies and consortia of these agencies in planning, establishing, and operating magnet schools that are part of an approved desegregation plan and that are designed to bring together students from different social, economic, and racial backgrounds. Local educational agencies and consortia of these agencies.

Janice Williams-Madison
U.S. Department of Education
Equity and Educational Excellence Division Director
Room 4500, Portals Building, SW
Washington, DC 20202
Phone: (202) 260-3697

Programs to Encourage Minority Students to Become Teachers

Supports projects to develop a new minority teaching program to increase the number of minority individuals, including language minority individuals, teaching profession. Institutions of higher education may apply for this program.

Janice Wilcox
U.S. Department of Education
Division of Higher Education Incentive Programs
Portals Building, Room C-80, SW
Washington, DC 20202
Phone: (202) 260-3207

Women's Educational Equity Program*

Promotes educational equity for women and girls including those who suffer multiple discrimination based on gender and race, ethnic origin, disability or age. Through development and dissemination of model education programs and materials, this program enables local education agencies to meet the requirements of Title IX of the Education Amendments of 1972. The program awards two types of grants: (1) grants to implement effective gender-equity policies and programs in schools; and (2) grants to research and develop model gender equity programs.

Carrolyn Andrews
U.S. Department of Education
OESE, Equity and Educational Excellence Division
Room 4500 Portals Buildings
Washington, DC 20202-6140
Telephone: (202) 260-2670.

Family Literacy

Even Start Family Literacy Programs*

Provides financial assistance through subgrants from the State educational agency to support programs that integrate early child education, adult literacy or adult basic education, and parenting education into a unified family literacy program. Each program is to include special training of staff to develop the skills necessary to work with parents and young children in the full range of instructional services that the Even Start project would provide. Eligible applicants include school districts in partnership with a public or private nonprofit organization, another public agency, or an institution of higher education.

For more information, contact the state education agency.

NOTE: For information on the special Even Start set-asides for migrant families, contact:

Bayla White
U.S. Department of Education
Office of Migrant Education
Room 4100, Portals Building
1250 Maryland Avenue, SW
Washington, DC 20202
Phone: (202) 260-1224

NOTE: For information on the special Even Start set-asides for Indian tribes and tribal organizations, contact:

Patricia McKee
U.S. Department of Education
Office of Compensatory Education Programs
Room 4400, Portals Building
1250 Maryland Avenue, SW
Washington, DC 20202
Phone: (202) 260-0991

Gifted and Talented Programs

Jacob K. Javits Gifted and Talented Students Education Grant Program (Demonstration)*

Provides demonstration grants for personnel training and other activities to build a nationwide capability to meet the special educational needs of gifted and talented students in elementary and secondary schools; to encourage the development of rich and challenging curricula for all students; and to supplement and make more effective the expenditure of state and local funds on gifted and talented education. The program focuses on students who may not be identified through traditional assessment methods (including economically disadvantaged individuals, individuals of limited English proficiency, and individuals with disabilities) and on programs designed to develop or improve the capability of schools in an entire state or region. State and local education agencies, institutions of higher education, may apply, as well as public and private agencies, Indian tribes and tribal organizations as defined by the Indian Self-Determination and Education Assistance Act, and native Hawaiian organizations.

Patricia O'Connell Ross
Office of Educational Research and Improvement
U.S. Department of Education
Room 506D Capital Place
555 New Jersey Avenue, NW, Washington, DC 20202
(202) 219-2169

Indian Education

Indian Education-Adult Education (Subpart 3)

Provides financial assistance through discretionary grants for the development and establishment of projects to improve the education and employment opportunities for Indian adults. Eligible applicants include public agencies and institutions, state and local education agencies, Indian tribes, Indian organizations, and Indian institutions.

Mary Brayboy
Office of Indian Education
U.S. Department of Education
Room 4300, Portals Building
1250 Maryland Avenue, SW
Washington, DC 20202
Telephone: (202) 260-1648

Indian Education-Fellowships for Indian Students (Subpart 2)

Provides funds through a discretionary program for Indian students to pursue post-baccalaureate degrees in medicine, clinical psychology, psychology, law, education, and related fields; or post-baccalaureate or undergraduate degrees in engineering, business administration, natural resources, and related fields. Individuals who are U.S. citizens and who are "Indian," as defined under the authorizing eligibility criteria set forth in the statute and regulations.

John Derby
Office of Indian Education
U.S. Department of Education
Room 4300, Portals Building
1250 Maryland Avenue, SW
Washington, DC 20202
Telephone: (202) 260-1719

Indian Education-Special Programs and Projects - Professional Development*

This program also supports educational professional development (EPD) programs that will improve the skills of qualified Indian individuals in professions that serve Indian persons as well as support training programs for qualified Indian persons to become teachers, administrators, teacher aides, social workers, and ancillary education personnel. Eligible applicants include state education agencies or local education agencies in consortium with an institution of higher education; Indian tribes or Indian organizations in consortium with an institution of higher education, and institutions of higher education, including Indian institutions of higher education.

Mary Brayboy
Office of Indian Education
U.S. Department of Education
Room 4300, Portals Building
1250 Maryland Avenue, SW
Washington, DC 20202
Phone: (202) 260-1648

Miscellaneous Programs

Education for Homeless Children and Youth-State Programs*

Provides assistance to establish an office in each state to coordinate education for homeless children and youth and to provide services to homeless children and youth in local education agencies. Professional development designed to heighten the understanding and sensitivity of school personnel to the needs of homeless children and youth is allowable under the subgrants to local school districts under this program.

For more information, contact the state education agency for the program contact or:

Patricia McKee
U.S. Department of Education
Office of Compensatory Education Programs
Office of Elementary and Secondary Education
Room 4400, Portals Building
1250 Maryland Avenue, SW
Washington, DC 20202
Phone: (202) 260-0991

Fund for Improvement of Education*

The Fund provides support for nationally significant programs to improve the quality of education, assist all students in meeting challenging state content standards, and contribute to the achievement of the National Education Goals. A wide variety of specific activities may be funded under this program. State and local education agencies; institutions of higher education; and other public and private agencies and organizations.

Lois Weinberg and Beverly Farrar
U.S. Department of Education
Office of Educational Research and Improvement
555 New Jersey Avenue, NW, Room 522G
Washington, DC 20202
Phone: (202) 219-1496 or (202) 219-2147, respectively

Innovative Education Program Strategies*

In addition to formula grant funds that the program provides to school districts, the program (Title VI, ESEA) provides funds to state educational agencies to support: local education reform efforts that are consistent with and support statewide reform efforts under the Goals 2000: Educate America Act; state and local efforts to accomplish the National Education Goals; implementation of promising education reform strategies; innovative and educational improvement, including support for library services and instructional and media materials' and programs to meet the special educational needs of at-risk students. The state educational agency determines the areas in which the state set-aside is to be used, and whether to fund activities through a discretionary grant program or through other means.

For more information, contact the state education agency or:

Zula Toney, Director
U.S. Department of Education
School Effectiveness Division
Office of Elementary and Secondary Education
Room 4500, Portals Building
1250 Maryland Avenue, SW
Washington, DC 20202
Phone: (202) 260-1907

Professional Development

Christa McAuliffe Fellowship Program*

Provides fellowships to permit exceptional teachers to have sabbaticals for study, research or academic improvement to increase the teacher's knowledge in an area of expertise, learn a new area of expertise, increase professional abilities, or enhance teachers' abilities to work with special populations. Teachers are selected by a State panel typically consisting of educators, teachers and parents on the basis of an evaluation of the teacher's abilities and commitment to remain a teacher, and a proposal for work during the fellowship period.

For more information, contact the state education agency.

Dwight D. Eisenhower Professional Development - State Grants*

In addition to formula grant funds that the program provides to school districts, the program (Title II, Part B, ESEA) provides funds to state agencies to support for two categories of programs: state leadership activities that the state educational agency designs to promote high-quality professional development linked to high standards; and competitive grants, which the state agency for higher education makes to institutions of higher education and nonprofit organizations in conjunction with one or more school districts, for sustained an intensive high-quality school districts, for sustained and intensive high-quality inservice activities or preservice training activities.

For more information, contact the state education agency and the state agency for higher education or:

Christine Jackson or Audrey Smith
U.S. Department of Education,
OESE, School Effectiveness Division
Room 4500, Portals Building, SW
Washington, DC 20202-6140
Phone: (202) 260-2516, (202) 260-2465, respectively

Dwight D. Eisenhower Professional Development-Federal Activities*

The program awards grants for projects of national significance that support activities that contribute to the development and implementation of high-quality professional development activities in the core academic subjects. State education agencies, state agencies for higher education, local education agencies, education service agencies, institutions of higher education, and other public and private agencies, organizations, and institutions.

Annora Dorsey
The U.S. Department of Education
Office of Educational Research and Improvement
555 New Jersey Avenue, NW
Washington, DC 20208-5543
Phone: (202) 219-2087

Minority Science Improvement

The program is designed to create !ong-range improvement in science and engineering education at predominantly minority institutions of higher education and to increase the participation of under represented ethnic minorities in scientific and technological career fields. Under the program, awards may be made to public and private, nonprofit minority institutions, nonprofit science-oriented organizations, professional scientific societies, and all nonprofit accredited colleges and universities providing service to a group of eligible minority institutions or providing in-service training for project directors, scientists, or engineers from eligible minority institutions.

Lawrence Grayson, Division Director
Higher Education Incentive Programs
U.S. Department of Education
Room C-80, Portals Building
1250 Maryland Avenue, SW
Washington, DC 20202
Phone: (202) 260-3235

Territorial Teacher Training Assistance Program*

Provides assistance for the training of teachers in elementary and secondary public and private schools in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, Republic of the Marshall Islands, Federated States of Micronesia (FSM), the Republic of Palau for as long as it remains a trust territory, and the Virgin Islands.

Joseph A. Wilkes
Education Networks Division
Program for the Improvement of Practice
Office of the Assistant Secretary for Educational Research and Improvement
Department of Education
Washington, DC 20208-5645
(202) 219-2186

Research

National Education Research and Development Centers*

The Office of Educational Research and Improvement (OERI) funds research and development centers across the country to carry out sustained research and development initiatives that address nationally significant problems and issues in education. Center awards are made to eligible higher education agencies, institutions of higher education in consort with public or nonprofit organizations, or to interstate agencies established by special compacts.

Ten centers are currently funded by OERI. They cover student achievement, assessment, cultural diversity, early childhood, education reform, postsecondary education, literacy, reading, at risk students, and gifted and talented students. Please refer to the appendices for the addresses and phone numbers of each individual center. The centers are listed in Appendix III on page 110.

The Regional Educational Laboratory Program

The Regional Educational Laboratory Program is the U.S. Department of Education's largest research and development investment designed to help educators, policy makers, and communities improve schools and help all students attain their full potential. Administered by the Office of Educational Research and Improvement (OERI), the network of 10 Regional Labs works to ensure that local, state and regional educational improvement efforts are informed by the best available research and knowledge from practice, and that exemplary and promising programs--and other important lessons about school reform--developed or learned in one site can be appropriately applied elsewhere.

School-to-Work Opportunities

State Development and Implementation Grants

School-to-Work Opportunities State Development Grants are non-competitive grants intended to assist States in planning and developing statewide school-to-work systems. State Implementation Grants are competitive grants for States to establish comprehensive, statewide school-to-work systems that offer young Americans access to education and training programs designed to prepare them for a first job in a high-skill, high-wage career, and to increase their opportunities for further education. A State receiving a first-year improvement grant passes 70 percent of its School-to-Work Opportunities grant to local partnerships. In the second year, it will pass 80 percent of its grant to local partnerships and in the third year and beyond it will pass 90 percent to local partnerships. The 50 states, the District of Columbia, and Puerto Rico are eligible to apply for State grants.

School-to-Work Opportunities Team, (202) 401-6222.

Implementation Grants to Local Partnerships

These competitive grants are awarded directly to local partnerships and to local urban and rural partnerships in high poverty areas, to begin implementation of School-to-Work Opportunities Initiatives that will eventually be included in statewide school-to-work systems. The purposes of local grants parallel those of the State Implementation Grants, but are to be achieved by local partnerships at the local level. To be eligible, a partnership must demonstrate that it has built a sound planning and development base for School-to-Work Opportunities programs and that it is ready to begin implementation. The program statute identifies the entities, including school districts, that must be included for a partnership to be eligible for a grant.

School-to-Work Opportunities Team, (202) 401-6222.

Development Grants to Territories and Development and Implementation Grants for Indian Youth

School-to-Work Opportunities Development Grants to Territories are non-competitive grants provided to partnerships in the Territories for the development of comprehensive school-to-work systems. Competitive Indian Program Grants are provided to eligible local partnerships to develop or implement School-to-Work Opportunities programs serving Indian youth and involving schools funded by the Bureau of Indian Affairs.

School-to-Work Opportunities Team, (202) 401-6222.

Science/Mathematics/Technology

Eisenhower Regional Mathematics and Science Education Consortia*

The program supports grants to establish regional consortia that disseminate exemplary mathematics and science instructional material and provide technical assistance in the use of improved teaching methods and assessment tools to benefit elementary and secondary school students, teachers and administrators. The Office of Educational Research and Improvement (OERI) makes at least one award in each area served by the regional education laboratories. Eligible recipients include State educational agencies, school districts, institutions of higher education, regional laboratories and combinations of these entities, and are administered through regional boards that are broadly representative of the agencies and organizations participating in the consortium. OERI currently funds 10 consortia, each of which offers services to schools and districts in a specific geographical area. The current consortia are listed in Appendix VI on page 120.

Linda Jones, Team Leader
Eisenhower Federal Activities Program
555 New Jersey Avenue, NW
Washington, DC 20208-5645
Telephone: (202) 219-2153
FAX: (202) 219-2053

Eisenhower National Clearinghouse for Mathematics and Science Education

OERI's Eisenhower National Clearinghouse (ENC) collects, catalogues and disseminates K-12 curriculum materials and resources in mathematics and science. Its catalogue is available online through a toll-free number (800) 362-4448 as well as through the Internet (enc.org.via Telnet or http://www.enc.org via WWW). ENC provides teachers with a variety of additional services, including a technical help desk and reference service, print publications, and 12 demonstration sites located throughout the nation. ENC collaborates with existing regional and national networks and coordinates its demonstration site activities with the Eisenhower Regional Consortia for Mathematics and Science Education. The current consortia are listed in Appendix VI on page 120.

Leon Simutis, Director
Eisenhower National Clearinghouse
The Ohio State University
1929 Kenny Road
Columbus, OH 43210-1079
Phone: (800) 821-5785 or (614) 292-7784

National Challenge Grants for Technology in Education*

The National Challenge Grants support activities designed to enhance the use of technology in teaching and technology-enhanced curricula. The program provides assistance to consortia of State educatiponal agencies, school districts, institutions of higher education, businesses, museums, and other public and private agencies and that include at least one school district located in a high-poverty area. In each Challenge Grant community, the consortium makes a substantial commitment of equipment, software development, technical support, telecommunications services and other costs. The grant itself augments these local investments and supports new curriculum design, teacher training, and the evaluation of educational effectiveness. Activities that the consortia undertake may include professional development as part of a project designed generally to improve student learning or to help integrate quality educational technologies into the school curriculum.

OERI currently funds 19 consortia, each of which have a specific subject-matter or geographic focus. The current consortia are listed in Appendix II starting on page 102.

Challenge Grants for Technology in Education
Office of Educational Research and Improvement
U.S. Department of Education
Suite 6300, Portals Bolding
1250 Maryland Avenue, S.W.
Washington, DC 20202-5544
Phone: (202) 708-6001

Regional Technology in Education Consortia*

These regional consortia, which consist of State educational agencies, institutions of higher education, and nonprofit organizations, help States, school districts, schools, adult literacy centers and other institutions use advanced technology to support improved teaching and student achievement. Their primary goals is to provide technical assistance that can help to ensure that technology is used effectively to promote school reform. In the area of professional development, the regional consortia work with institutions of higher education and other organizations to improve pre-service education so that new teachers are able o use new technology effectively, and with schools, school districts and State educational agencies on activities that can help existing teachers integrate technology into the curriculum in ways that can best promote student achievement.

The Office of Educational Research and Improvement (OERI) currently funds six consortia, each of which has a specific subject-matter or geographic focus. The current consortia are listed in Appendix VII starting on page 123.

Catherine Mozer Connor
Regional Technology in Education Consortia Program
Office of Educational Research and Improvement
U.S. Department of Education
Room 506a, Capitol Place
555 New Jersey Avenue, NW,
Washington, DC 20202
Phone: (202) 219-8070

Star Schools Program*

The Star Schools Program supports telecommunications partnerships to provide telecommunications equipment and programming to underserved students, including those living in rural and urban areas. Through support from the Star Schools Program, more than 50,000 teachers along with a host of administrators, parents, and policy makers have participated in staff development and community awareness activities produced via satellite, compressed video technology, fiber optics, videodisc, and microcomputer-based networks. Eligible partnerships may take the form of either: (1) A public agency or corporation established for the purpose of developing and operating telecommunications networks to enhance educational opportunities; or (2) a partnership that includes three or more of the following, at least one of which must be an agency as described in (a) or (b): (a) A local educational agency with a significant number of elementary and secondary schools that are eligible for assistance under ESEA Title I funds, or elementary and secondary schools operated or funded for Indian children by the Department of the Interior; (b) a state education agency; (c) an adult or family education program; (d) an institution of higher education or state higher education agency; (e) a teacher training center or academy; (f) a public or private agency with experience or expertise in the planning and operation of telecommunications networks or a public broadcasting entity; or (g) a public or private elementary or secondary school.

Cheryl Garnette
Star Schools
Office of Educational Research and Improvement
555 New Jersey Avenue, NW
Washington, D.C. 20208
Telephone: (202) 219-2116

Technology, Educational Media, and Materials for Individuals with Disabilities*

Funds projects and centers for advancing the availability, quality, use and effectiveness of new technology, assistive technology, media, and materials in the education of children and youth with disabilities and the provision of related services and the provision of early intervention services to infants and toddlers disabilities. State and local education agencies, public agencies, institutions of higher education, and profit and nonprofit private organizations are eligible to apply.

Louis Danielson
The Office of Special Education and Rehabilitative Services
U.S. Department of Education
Room 3623, Switzer Building
330 C Street, SW
Washington, DC 20202
Telephone: (202) 205-8119

Special Education and Rehabilitative Services

Rehabilitation - Training Programs

Supports projects for training (including inservice training), traineeships, and related activities, including the provision of technical assistance, to help increase the number of qualified personnel trained in providing rehabilitative and related services to individuals with disabilities. The Department funds six categories of programs: Rehabilitation long-term training; Experimental and innovative training; State vocational rehabilitation unit in-service training; rehabilitation continuing education programs; Rehabilitation short-term training; and Training of interpreters for individuals who are deaf and individuals who are deaf-blind. States and public or non-profit agencies and organizations, including Indian tribes and institutions of higher education are eligible to apply.

Rehabilitative Services Administration
U.S. Department of Education
MES Building, Room 2531
330 C Street, SW
Washington, DC 20202
Phone: (202) 205-5482

Rehabilitation - Distance Learning Through Telecommunications

Provides assistance to institutions of higher education to support regional partnerships that use telecommunications to provide in-service training programs, including certificate or degree granting programs concerning vocational rehabilitative services and related services for vocational rehabilitation professionals.

Rehabilitative Services Administration
U.S. Department of Education
MES Building, Room 2531
330 C Street, SW
Washington, DC 20202
Phone: (202) 205-5482

Rehabilitation - Braille Training Projects

Supports grants or contracts with States and public or nonprofit agencies including institutions of higher education to pay the cost of training in the use of Braille for persons providing vocational rehabilitation services or educational services to youth and adults who are blind.

Rehabilitative Services Administration
U.S. Department of Education
MES Building, Room 2531
330 C Street, SW
Washington, DC 20202
Phone: (202) 205-5482

Special Education - Innovation and Development*

Advances and improves the knowledge base and improves the practice of professionals, parents and others providing early intervention, special education, and related services, including professionals in regular education environments, to provide children with disabilities effective instruction and enable them to learn successfully.

Louis Danielson
Special Education Programs
Department of Education
Room 3523 Switzer Building
600 Independence Avenue, SW
Washington, DC 20202
Phone: (202) 205-8119

Special Education - Personnel Development*

Supports grants for personnel training to increase the quality and quantity of personnel available to serve infants, toddlers, children, and youth with disabilities, and their families. State education agencies, institutions of higher education, and other appropriate nonprofit agencies and organizations are eligible to apply.

Louis Danielson
Division of Personnel Preparation Director
Office of Special Education
U.S. Department of Education
Room 3523, Switzer Building
330 C Street, SW
Washington DC 20202
Phone: (202) 205-8119

Vocational Education

Carl D. Perkins Vocational Education Act (Title II, Part A)*

Under Title IIA of the Perkins Act, states may use up to 8.5 percent of funds they receive as part of their basic state grant for state programs and state leadership activities. These activities may include professional development, curriculum development and dissemination, and assessment of programs receiving federal assistance. Professional development may involve vocational teachers and academic teachers working with vocational students, corrections and community based educators and counselors, and in-service and preservice training of teachers in state-of-the-art programs and techniques with particular emphasis on minorities.

For more information contact the state board for vocational education.

U.S. Department of Agriculture

Ag in the Classroom*

The Ag in the Classroom Program helps students gain a greater understanding of agriculture's role in the economy and society, and informs students about career opportunities in the food and agricultural sciences. While the Department of Agriculture provides national leadership, each state develops its own programs in cooperation with agribusiness, education, and government. Most states provide teacher in-service training, concentrating on math and science as it pertains to the food and fiber system. Information about state programs is available through the Washington, D.C., office. The Ag in the Classroom State Leader can provide details on state-level programs.

Director
Ag in the Classroom
U.S. Department of Agriculture
Room 4307, South Building
Washington, DC 20250-0991
Phone: (202) 720-7925
Fax: (202) 690-0062

Distance Learning and Medical Link Grant Program*

Provides grants to rural schools, hospitals, and other organizations, to provide educational and medical benefits through distance learning and medical link projects in rural areas. The program finances facilities, such as classroom video equipment, that may be used to connect various rural sites together or to other urban sites through existing telecommunications networks. The program has developed a number of teacher professional development programs and tools. Organizations such as schools, libraries, hospitals, medical centers, or similar organizations, may apply. The requirement is that the applicants will be users of telecommunications, a computer network, or related advanced technology system to provide educational and/or medical benefits to rural residents.

Larry Byrant
Rural Development Assistance Staff
U.S. Department of Agriculture
Rural Electrification Administration
Washington, DC 20250
Phone: (202) 690-3594
e-mail: LBryant@RUS.USDA.Gov

Higher Education Challenge Grants*

This competitive grants program increases institutional capacity to respond to state, regional, national, or international education needs by strengthening college and university teaching programs in the food and agricultural sciences. All U.S. colleges and universities having a demonstrable capacity to teach the food and agricultural sciences are eligible.

Director
Higher Education Programs
Cooperative State Research, Education, and Extension Service
U.S. Department of Agriculture, AG Box 2251
Washington, DC 20250-2251
Phone: (202) 720-1973
Fax: (202) 720-2030
e-mail: RGregory@REEUSDA.GOV

Infusing Aquaculture Into Agriculture Education*

Through congressional appropriations in 1990-1996, USDA initiated a pilot program, Infusing Aquaculture Into Agriculture Education, to develop materials, conduct field tests, and provide training in aquaculture for selected teachers across the country. The 1,100-page, 5-volume curriculum is proving valuable in teaching high school students the principles of science and mathematics related to aquatic organisms. The program is being adapted by some schools for middle and elementary students.

Gwendolyn Lewis, Director
Higher Education Programs
Cooperative State Research, Education, and Extension Service
U.S. Department of Agriculture
Ag Box 2251
Washington, DC 20250-2251
Phone: (202) 720-1973
Fax: (202) 720-2030

Institution Capacity Building Grants*

Builds the research and teaching capacities of the 1890 land-grant institutions and Tuskegee University through cooperative programs with federal and nonfederal entities. For teaching grants, funds may be used in the following target areas: (1) curricula design and materials development; (2) faculty preparation and enhancement for teaching; (3) instruction delivery systems; (4) scientific instrumentation for teaching; (5) student experiential learning; and (6) student recruitment and retention.

Director
Higher Education Programs
Cooperative State Research, Education, and Extension Service
U.S. Department of Agriculture
Box 2251
Washington, DC 20250-2251
Phone: (202) 720-1973
FAX: (202) 720-2030

Multicultural Scholars Program

Increases the ethnic and cultural diversity of the food and agriculture scientific and professional work force, and advances the educational achievement of minority Americans. Institutions compete for grants that provide scholarships to outstanding students from traditionally underrepresented racial and ethnic groups to pursue baccalaureate degrees in the fields of agriculture, natural resources, forestry, veterinary medicine, home economics, and disciplines closely allied to the food and agricultural system.

Director, Higher Education Programs
Cooperative State Research, Education, and Extension Service
U.S. Department of Agriculture
Box 2251
Washington, DC 20250-2251
Telephone: (202) 720-1973
FAX: (202) 720-2030

National Networks for Action in Science and Technology

The National Network creates a stronger link of land-grant colleges and universities that provide technical assistance to the federally funded children, youth, and families at-risk sites. The network provides trainers with the information and skills necessary to return to their local communities and train others to implement science and technology curricula and processes. In addition, trainers learn how to recruit participants, promote programs, and establish advisory and planning groups.

Julie Chapin, Coordinator
National Network for Action and Science Technology
6H Berkey Hall
Michigan State University
East Lansing, MI 48824-1117
Phone: (517) 355-0180
Fax: (517) 355-6748
e-mail: Chapin@MSUCES.CANR.MSU.EDU

Nutrition Education and Training Program

Grants are made to state agencies to provide for the nutritional training of educational and food service personnel, the food-service management training of school food service personnel, and the conduct of nutrition education activities in schools and child care institutions and institutions offering summer food service programs under Section 13 of the National School Lunch Act. State and territorial education agencies or alternate state agencies.

Pat Daniels, Chief
Nutrition and Technical Services Division
Food and Consumer Service
Department of Agriculture
3101 Park Center Drive, Room 609
Alexandria, Virginia 22302
Phone: (703) 305-2554
Fax: (703) 305-2549

Teachers' Research Fellowship Program*

The Teachers' Research Fellowship Program offers temporary employment to mathematics, biology, or physical science teachers at the junior or senior high school level. Teachers work under an Agricultural Research Service scientist on specific research problems tailored for completion within a given time period. The program provides teachers with first-hand agricultural and food-related research experience that can be transferred to students in the classroom.

Sharon Tally
Kansas State University
124 Bluemont Hall
Manhattan, KS 66506
Phone: (913) 532-7946
Fax: (913) 532-7304

Program Manager
U.S. Department of Agriculture
Cooperative State Research,
Education, and Extension Service
Room 3345-S
14th Street and Independence Avenue, SW
Washington, DC 20250-2200
Phone: (202) 720-3511

U.S. Department of Commerce

National Sea Grant College Program, Global Change Education Program

Regional Global Change consists of "Training the Trainer" workshops for informal educators, NOAA employees, and local extension leaders. Workshop topics include natural variability, greenhouse/sea level rise, ozone depletion, resource consumption, and decision making under "scientific uncertainty."

Bob Norris, Outreach Program
R/ORI, 1335 East-West Highway
Silver Spring, MD 20910
Phone: (301) 713-2431 ext. 142
Fax: (301) 713-0799
E_Mail: rnorris@rdc.noaa.gov

National Sea Grant College Program, Operation Pathfinder Program*

The Operation Pathfinder Program consists of 2-week summer courses that present an introduction to oceanographic and coastal processes. Courses and teacher training designed to enhance skills in science teaching are available for K - grade 12 teachers in six regions.

Shirley Fiske, Outreach Program Director
R/OR1, 1335 East-West Highway
Silver Spring, MD 20910
Phone: (301) 713-2431 ext. 148
Fax: (301) 713-0799

NOAA Public Affairs Office

The Public Affairs Office has a limited number of publications suitable for classroom instruction that teachers can request by mail. Some of these titles are also available on the Internet.

Louis Arguelles, Director
Correspondence Unit
NOAA Public Affairs Office
U.S. Department of Commerce, Rm. 6225
Washington, DC 20230
Phone: (202) 482-5647
Fax: (202) 219-8827
WEB Page: www.noaa.gov/public affairs/

U.S. Department of Defense

Junior Science and Humanities Symposia (JSHS) Program*

The Junior Science and Humanities Symposia Program promotes scientific research and experimentation in secondary schools and recognizes students for their original research achievements. Forty-seven regional symposia are held during each academic year on university campuses across the nation, where participating secondary students and teachers may interact with distinguished scientists and humanists on current research topics and may tour research laboratories. University scholarships and other donated awards are available to students who submit and orally present original research projects to each regional symposium. The U.S. Army awards regional winners with an expense-paid trip to the annual national symposia, where it also awards a grant to the teacher and school of the national winner.

Doris Cousins, Director
Junior Science and Humanities Symposia
Academy of Applied Science
98 Washington Street
Concord, NH 03301
Phone: (603) 228-4520
e-mail: cousinsACA@AOL.COM

National Science Center*

The National Science Center, with its multifaceted programs, is designed to increase interest in science, math, and technology among students, improve the skills of teachers, and provide math and science education support in the classroom. The Center offers hands-on workshops/camps for students and teachers in science, math, electronics and computers nationwide. Portable planetariums for instruction in space science, astronomy, geography, and biology are available on loan to teachers that have been certified through the center's comprehensive training program. In addition, the National Science Center operates a Discovery Center which offers school groups and the general public interactive experiences with scientific exhibits. The center operates mobile versions of the Discover Center that travel nationwide. Tha National Science Center also reaches out nationally with satellite teleconference programs on science education. Finally, the center offers a Science-by-Mail program which encourages a pen pal relationship between students and scientists.

George J. Fry, Jr.
National Science Center
Attention: ATZH-NSC-D
Building 25722
Fort Gordon, GA 30905-5689
Phone: (706) 791-7621

Teacher and Teacher's Aide Placement Assistance Program - Troops to Teachers

Troops to Teachers provides assistance to military personnel and defense employees who are adversely affected by the military draw down and want to enter public education as a second career. A financial incentive is available to school districts serving a high concentration of students from low-income families that hire certain Troops to Teachers participants (those accepted into the program prior to October 1, 1995). Individuals who applied after October 1, 1995, may not bring an incentive grant to the hiring school district, but they have the same high qualities, personal motivation, and extensive backgrounds. A data base of interested Troops to Teachers participants is available to school districts wanting to locate individuals with backgrounds in teacher shortage areas such as math, science, languages, or computer technology. An Internet accessible data base is currently being developed which will allow school district administrators to search for potential teachers using a variety of search criteria.

John R. Gantz, Chief
Troops to Teachers
Defense Activity for Non-Traditional Education Support (DANTES)
6490 Saufley Field Road
Pensacola, FL 32509-4243
Phone: (904) 452-1320, x155
FAX: (904) 452-1096

U.S. Army Summer Associateship for High School Science and Mathematics Faculty Program*

This program sponsored by the Department of the Army through the U.S. Army Research Office, exposes a limited number of outstanding high school teachers to research at Army laboratories and centers located across the country. Associateships are awarded for periods of up to 10 weeks.

Gary Hill, Director
Battelle-HSSMF
P.O. Box 12297, 200 Park Drive
Research Triangle Park, NC 27709-2297
Phone: (919) 549-8291, Ext. 28
e-mail: Hill@ARO-EMH1.ARMY.MIL

U.S. Department of Energy

Adventures in Supercomputing*

The Adventures in Supercomputing (AiS) program was designed to cultivate the interests of diverse populations of high school students, particularly students of color, girls and economically disadvantaged students in science, mathematics, and computing. The AiS curriculum introduces students and teachers to the field of computational science. Teachers in the AiS program receive extensive training on the use of computational tools in the classroom and in how to design and implement a program that will work effectively in their local school community. AiS currently is being piloted in Iowa, New Mexico, Tennessee, Alabama and Colorado with Ames Laboratory, Sandia National laboratories-Albuquerque, Oak Ridge National Laboratory, the University of Alabama at Huntsville and Colorado State University hosting the program in their respective states.

Connie Hargrave
Ames National Laboratory
108 Office and Laboratory Building
Iowa State Laboratory
Ames, IA 50011
(515) 294-1478

Better Education for Students and Teachers (BEST)

The BEST program gives teachers (grades 7-12) opportunities to conduct research or participate in curriculum development activities at approved DOE laboratories. Special emphasis is placed on incorporating the teachers' laboratory experiences into science and mathematics activities they can use in their classroom.

Savannah River Ecology Laboratory
Education Program
P.O. Drawer E
Aiken, SC 29802
(803) 725-9726

Westinghouse Savannah River Company
Education Outreach Programs
227 Gateway Drive
Aiken, SC 29802
(803) 652-1802

Chicago and National Science Explorers Program*

This program uses PBS "New Explorers" videotapes to present science concepts to students. Teacher guides are available for use in the classroom and in collaboration with museums and other science institutions.

Dr. Samuel Bowen, Program Leader
Division of Educational Programs
Argonne National Laboratory
9700 South Cass Avenue
Argonne, IL 60439
Phone: (708) 252-3328
Fax: (708) 252-3193

Council of Energy Resource Tribes (CERT) Teacher and Student Fellowships*

DOE, along with the National Renewable Energy Laboratory and the Western Area Power Administration, provides research opportunities for Native American precollegiate teachers and college students. CERT, in turn, instructs the Laboratory researchers on tribal affairs relating to energy on the reservations and a basic understanding of Native American cultures.

U.S. Department of Energy
Office of Science Education and Technical Information, ET-3
1000 Independence Avenue SW.
Washington, DC 20585
Phone: (202) 586-8949
Fax: (202) 586-0019

Division of Educational Programs Instructional Laboratory

The Technology Instructional Laboratory helps students and faculty conduct experiments using research grade instrumentation in spectroscopy, x-ray fluorescence, and analyzing elemental constituents using various analytical techniques.

Dr. Harold Levin
Program Leader
Division of Educational Programs
Argonne National Laboratory
9700 S. Cass Avenue
Argonne, IL 60439
Phone: (708) 252-3380
Fax: (708) 252-2193

Hands-On Universe*

This Lawrence Berkeley Laboratory Program makes cutting-edge astrophysics research tools and technologies available to a wide audience. Via microcomputers and electronic networks, participants can request astronomical images created from the Laboratory's professional-grade telescopes. The laboratory is developing a number of resources for teacher professional development.

Lawrence Berkeley Laboratory
One Cyclotron Road, Building 938C
Center for Science and Engineering Education
Berkeley, CA 94720
Phone: (510) 486-5325
Fax: (510) 486-6660

National Education Supercomputer Program (NESP)*

In these summer workshops, students and teachers use a Cray Y-MP supercomputer dedicated to education.

Brian Lindow
Manager or Educational Technology Programs
Lawrence Livermore National Laboratory
P.O. Box 808
Livermore, CA 94550
Phone: (510) 422-6080
Fax: (510) 423-0418
E_Mail: lindowl@llnl.gov

National Teacher Enhancement Program (NTEP)*

NTEP is a multilaboratory 3-year program for teams of pre-college teachers. The purpose of the program is to improve K-12 science instruction by creating a cadre of lead teachers who will serve as role models and mentors for their colleagues and who will be district leaders in systemic reform initiatives. NTEP is being held in the following laboratories:

Brookhaven National Laboratory (NBL)
This program is centered on a three-week summer Energy and Technology Institute offering: (1) basic science content; (2) a hands-on introduction to technological applications of this content; (3) an "immersion" experience in constructive learning through mission-oriented team technology projects; and (4) opportunities for elementary teachers and technology teachers to collaborate in developing such activities for students.

Karl Swyler
Science Education Center, Bldg. 438
Brookhaven National Laboratory
P.O. Box 5000
Upton, NY 11973
(516) 282-5832

Lawrence Berkley National Laboratory
The NTEP workshop at the Lawrence Berkley National Laboratory employs a teaching-learning model which parallels the scientific method and immerses the teachers in a real-life, hands-on scientific project. This approach exemplifies ways in which scientists uncover knowledge and solve problems. When practiced in the classroom, this approach goes beyond the bounds of the science class and encourages students to take a more meaningful look at their world in general. The overall scientific focus is environmental studies. The theme for 1996 is "waste reduction and treatment."

Marva Wilkins
Lawrence Berkeley National Laboratory
Center for Science and Engineering Education
Bldg. 90, Rm. 1070
1 Cyclotron Road
Berkley, CA 94720
(510) 486-5640

Los Alamos National Laboratory
This is a 3-year science enhancement and leadership program, for teachers of grades 4-6. The program provides teacher teams with science content, process, and leadership skills through hands-on curriculum-building workshops and summer institutes. Laboratory scientistss and education professionals share their expertise and advice, particularly in the life and physical sciences, with particpants. During the three years, participants receive assistance in taking the training back to their schools to become leaders in the implementation of science programs that have an activity-based approach.

Rick Alexander, Program Coordinator
Human Resources - Science Education and Outreach Group
Los Alamos National Laboratory
P.O. Box 1663m, Mail Stop P278
Los Alamos, NM 87545
Phone: (505) 667-1919
FAX: (505) 665-4093

National Renewable Energy Laboratory (NREL)
NTEP is an opportunity for a teacher (or teams of teachers) to conduct scientific investigations in a Department of Energy Laboratory with guidance from scientists/ mentors. Teachers can then apply their lab experience to the development of a classroom plan that transforms students from passive learners to active problem solvers.

Lisa Joss
Education Support Administrator
National Renewable Energy Laboratory
Bldg. 15/3, 1617 Cole Blvd.
Golden, CO 80401-3393
(303) 275-3080

Princeton Plasma Physics Laboratory
"Global Energy and Environmental Solutions" is a 3-year teacher institute designed for science and mathematics teachers of grades 5-8, and features an integrated mathematics, science, and technology curriculum, as well as assessment techniques and leadership skills.

Diane Carroll, Science Education Program
Princeton University Plasma Physics Laboratory
P.O. Box 451
Princeton, NJ 08543
(609) 243-2107

Sandia National Laboratory, California
LASER (Leadership Academy for Science Education Reform) is a three-year institute for teacher leaders scheduled to begin in the summer of 1995 and planned in partnership with the California Science Implementation Network (CSIN), and the Lawrence Hall of Science (LHS), a national leader in science education programs and pedagogy. The program is designed to increase scientific knowledge and familiarity with science instructional materials, improve and update teaching methods that emphasize integrated curriculum and hands-on learning, increase leadership skills, and foster a supportive environment for teachers involved in the program.

Judith Hurtz, Program Administrator
Sandia National Laboratories
7011 East Avenue, MS 9904
P.O. Box 969
Livermore, CA 94551
Phone: (510) 294-2703
Fax: (510) 294-1526
E_Mail: jhurtz@Sandia.gov

Science and Technology Inquiry Partnerships

STIP provides a series of phased workshops designed to prepare teachers as partners in the systemic change process, allowing them to develop inquiry-based curricula for science and technology in order to implement this mode of instruction.

Dick Farnsworth
Education Programs
Lawrence Livermore National Laboratory
P.O. Box 808, L-428
Livermore, CA 94550
(510) 422-3907

Science at Home*

Science at Home workshops partner teachers, parents, and students to help improve scientific literacy and to promote scientific curiosity through fun, easy-to-do science activities.

Denis Guild
Los Alamos National Laboratory
P.O. Box 1663, STB/SE MS F671
Los Alamos, NM 87545
Phone: (505) 667-8680
Fax: (505) 665-6871

Standard Model of Fundamental Particles and Interactions

DOE, through Lawrence Berkeley Laboratory and the Stanford Linear Accelerator Center, has sponsored production and distribution of this instructional packet to provide teachers with methods for presenting up-to-date ideas on quarks and leptons.

Science Kit & Boreal Laboratories
777 East Park Drive
Tonawanda, NY 14150-6784
Phone: (716) 874-6020

Summer Teacher Enhancement Program (STEP)*

These 4-week summer institutes expose teachers to cutting-edge science in specific content areas and show teachers how to incorporate what they have learned into the classroom. Topics include materials, environmental and earth sciences, physics, and forensics. Math, science and technology teachers may apply to these programs at the following laboratories:

Argonne National Laboratory
This is a 4-week intensive summer course on the utilization of instrumentation based on a multi-disciplinary theme or forensics. Follow up activities include visits and an equipment loan program from Argonne National Laboratory's Instructional Van.

Harold Myron
Argonne National Laboratory
9700 South Cass Avenue, Bldg. 223
Argonne, IL 60439-4843
(708) 252-3193

Oak Ridge National Laboratory (ORNL)
Manufacturing Opportunities through Science and Technology (MOST) is a teacher development program for middle and high school science, mathematics, technology and vocational education teachers as well as administrators and guidance counselors. The purpose of MOST is to expand content knowledge and career awareness, enhance pedagogical skills, and develop teaching materials for transfer to the classroom in the area of manufacturing. Participant teams include administrators and/or guidance counselors, and teachers from different content areas including both academic and vocational subjects.

Barbara Summers
Oak Ridge National Laboratory
Office of Science Education
105 Mitchell Rd., MS-6496
Oak Ridge, TN 37831-6496
Phone: (423) 241-3705

Pacific Northwest Laboratory
The National Teachers Institute in Materials Science and Technology Teacher Training brings together teams of teachers and administrators to work with PNL researchers in materials, science, and technology. The institute combines the academic disciplines of chemistry, physics, and engineering to create a materials science and technology (MST) course. The Institute covers the fundamentals of ceramics, glass, metals, polymers, and composites. Teams enhance their knowledge of the nature and behavior of materials and take part in hands-on activities, demonstrations, laboratory experiences, industry tours, and long term

projects. The MST course, on which the institute is based, was developed by PNL staff and Northwest teachers.

Karen Wieda
Battelle Pacific Northwest National Laboratory
P.O. Box 999, MS K1-22
Richland, WA 99352
Phone: (509) 375-3811
Fax: (509) 375-2576

SUPER! (Science Understanding Promotes Environmental Responsibility)

SUPER! is a professional development program for middle and high school teachers. Scientific research being conducted at Sandia forms the basis of the science content for this program that examines the science behind environmental issues such as the intensive 3-week summer institute and year-round follow-up communities to advance scientific literacy by combining state of the art of science, innovative teaching strategies, and effective leadership skills.

Nancy Wilson
Sandia National Laboratories/CA
P.O. Box 969
Livermore, CA 94551
(510) 294-1502

Teacher Environmental Assessment and Modeling (TEAM)

The TEAM program, a summer institute designed for high school science, math, computer, or technology teachers. Participants in the TEAM program learn how to facilitate student water quality experiences. Teachers from New Mexico, southern Colorado, and western Texas may apply.

David Bones, TEAM program coordinator
Human Resources - Science Education and Outreach Group
Los Alamos National Laboratory
P.O. Box 1663, Mail Stop P278
Los Alamos, NM 87545
Phone: (505) 667-1919
FAX: (505) 665-4093

Teacher Research Associates (TRAC) Program*

TRAC provides outstanding middle and high school science, mathematics, and technology education teachers with professional scientific and engineering experience through summer research at one of eight participating Department of Energy national laboratories, facilities, and energy technology centers. The program enhances teacher leadership skills; increases teachers' awareness and understanding of current science and technology, and promotes the transfer of this knowledge to the classroom. Middle and high school teachers employed full time in public, private, or parochial schools in the United States, Puerto Rico, and U.S. Territories and Commonwealths and whose major teaching assignment is in science, mathematics, or technology education at grades 7 and higher. A Bachelor's degree or above is required, preferably in science or mathematics. Former TRAC appointees are not eligible for reappointment under this program. U.S. citizenship or Permanent Resident Alien status is required.

Following is a list of participating DOE laboratories:

Argonne National Laboratory
Division of Educational Programs
9700 S. Cass Avenue
Argonne, IL 60439-4845
(708) 252-3226

Brookhaven National Laboratory
Science Eduation Center, Bldg. 438
Brookhaven National Laboratory
P.O. Box 5000
Upton, NY 11973
(516) 282-5832

Continuous Electron Beam
Accelerator Facility
"Teach Science by Doing Science"
Dr. Beverly Hartline
12000 Jefferson Avenue
Newport News, VA 23606
(804) 249-7567

Fermilab
"Topics in Modern Physics Institute"
Marjorie Bardeen
Education Office
.P.O. Box 500, MS 226
Batavia, IL 60510
(708) 840-2031

Lawrence Berkely National Laboratory
Center for Science and Engineering
Education
One Cyclotron Road, Building 938C
Berkley, CA 94720
Dr. Linda Cain
(510) 486-5511

Oak Ridge National Laboratory
Manufacturing Opportunities Through
Science and Technology
105 Mitchell Road, MS 6496
Oak Ridge, TN 37831-6496
Eileen Engel
(423) 576-3886

Pacific Northwest Laboratory
"Materials Science and Technology"
University and Science Education
P.O. Box 999, K1-21
Richland, WA 99352
Karen Wieda
(509) 375-6929

Princeton Plasma Physics Laboratory
"Basic Concepts and Forensics"
Science Education Program
P.O. Box 451
Princeton, NJ 08543
Dr. Harold Myron
(609) 243-2107

Teacher Research Internship (TRIP)

TRIP provides summer and year-long research opportunities for teachers wth follow-up activities. This program includes curriculum development and classroom transfer. Nearly 50 teachers participate annually.

Dick Farnsworth
Education Programs
Lawrence Livermore National Laboratory
P.O. Box 808, L-428
Livermore, CA 94550
(510) 422-3907

Teaching Radiation, Energy, and Technology (TREAT)

The TREAT Workshop is a five-day course designed to provide middle and high school teachers witha accurate and up-to-date information, materials, and hands-on techniques for teaching radiation, energy, and related technology. In addition, it assists teachers in providing information and instruction to students so that they can make informed decisions regarding radiation, energy, and technology.

Westinghouse Savannah River Company
Education Outreach Programs
227 Gateway Drive
Aiken, SC 29802
(803) 652-1802

U.S. Department of Health and Human Services

Minority Access to Research Careers (MARC)*

Assists minority institutions to: (1) train greater numbers of scientists and teachers in health-related fields; and (2) increase the number of minority students who can compete successfully for entry into graduate programs which lead to the Ph.D. degree or the M.D.-Ph.D. degree in biomedical science fields. Any nonfederal public or private nonprofit four-year university or college with substantial enrollment of ethnic minority students may apply for the institutional National Research Service Awards. To be eligible for funding, a proposal must first receive favorable recommendations from a scientific review committee and a national advisory council. Individual National Research Service awardees must be nominated and sponsored by a public or nonprofit private institution having staff and facilities appropriate to the researchtraining program. All awardees must be citizens or have been admitted to the United States for permanent residence. Postdoctoral applicants must have a professional or scientific degree (M.D., Ph.D., D.D.S., D.O., D.V.M., Sc.D., D.Eng., or equivalent domestic or foreign degree).

Adolphus Toliver, Program Director
MARC Program
U.S. Department of Health and Human Services
National Institutes of Health
NIH Westwood Building, Room 950
45 Center Drive, MSC-6200
Bethesda, Maryland 20892-6200
Phone: (301) 594-3900.

Minority High School Student Research Apprentice (MHSSRA) Program*

MHSSRA focuses on high school students, and in-service and preservice teachers. MHSSRA's six to eight-week apprenticeship program cultivates interest among minority high school students in the biomedical sciences. Students work with local biomedical investigators and learn research procedures, collect and analyze data, help write scientific papers, and deliver presentations at research seminars.

National Center for Research Resources
National Institutes of Health
Biomedical Research Support Program
1 Rockledge Centre
6705 Rockledge Drive, MSC 7965
Bethesda, MD 20892-7965
Phone: (301) 435-0760

Minority High School Student Research Apprentice (MHSSRA) Program for In-service Teachers*

The MHSSRA In-service Program supports the participation of minority teachers or teachers who teach large numbers of minority students in cutting-edge biomedical research. Teachers work with biomedical investigators who are committed to broadening teachers' scientific knowledge and understanding of technical skills in the hopes that it will transfer into the classroom.

National Center for Research Resources
National Institutes of Health
Biomedical Research Support Program
1 Rockledge Centre
6705 Rockledge Drive, MSC 7965
Bethesda, MD 20892-7965
Phone: (301) 435-0760

Minority High School Student Research Apprentice (MHSSRA) Program for Preservice Teachers

The MHSSRA Program for Preservice Teachers supports the participation of minority undergraduate students interested in a science teaching career in biomedical research while working with local biomedical investigators. The Program's intent is to expand teachers' basic scientific knowledge and expose them to research experiences before they enter the classroom.

National Center for Research Resources
National Institutes of Health
Biomedical Research Support Program
1 Rockledge Centre
6705 Rockledge Drive, MSC 7965
Bethesda, MD 20892-7965
Phone: (301) 435-0760

National Institute of Environmental Health Sciences (NIEHS) Summers of Discovery Environmental Science Education Outreach Program*

Summers of Discovery, a program for precollege science teachers and high school through graduate school students who are interested in pursuing careers in the biological sciences, matches participants with volunteer mentors from the intramural program to spend between two and three months in the mentor's laboratory working on a research project that exposes them to some of the latest biomedical, molecular, and cellular techniques.

Dr. Mike Hogan
National Institute of Environmental Health Sciences
National Institutes of Health
Summers of Discovery
Attention: Personnel Office
P.O. Box 12233/RTP.NC 2NN09
Research Triangle Park, NC 27709
Phone: (919) 541-3433
e-mail: Johnso21@NIEHS.NIH.GOV

Science Education Partnership Award (SEPA)*

The program supports the development of model programs that join working scientists and educators in enhancing the precollege science areas such as: molecular biology; molecular genetics; immunology; neuroscience; knowledge about the brain and behavior and their relation to addiction and mental disorders; bioinformatics; ethical issues; the benefits and risks of genetic engineering; and the role of environmental health. NIH initiated the NIH SEPA Program beginning in fiscal year 1991. To address the goals of the SEPA Program, proposed science education projects were developed for students at the kindergarten through twelfth grade levels and/or the general public. Programs aimed toward school children conveyed the scientific process in a way that makes science fun and interesting for the students and that captures their enthusiasm for science. Programs aimed toward the general population were designed to increase knowledge of scientific terms, concepts, and reasoning and understanding of scientific public policy issues. To gain maximum benefit from the program, priority was given to projects that were innovative, had the potential to be replicated for widespread use, and built on existing science education programs whenever possible. Public and private for-profit and nonprofit institutions (e.g. universities, colleges, professional organizations, school systems, scientific societies, science museums, research institutes, private foundations, and other organizations engaged in the conduct of, or concerned about, science education). Applications from educational institutions with significant minority enrollments, and from applicants who are women or minority group members, are especially encouraged.

Marjorie A. Tingle, Ph.D.
NIH SEPA Program
National Center for Research Resources
National Institutes of Health
Public Health Service
Westwood Building, Room 10A11
5333 Westbard Avenue
Bethesda, Maryland, 20892
Phone: (301) 594-7947

Grants Management Contact:
Ms. Lacey Durham
Grants Management Officer
Center for Research Resources
National Institutes of Health
Public Health Service
Westwood Building, Room 853
5333 Westbard Avenue
Bethesda, Maryland 20892
Phone: (301) 594-7955

U.S. Department of the Interior

Afflicted With a Dream - An Aviation Education Workshop for Teachers*

Teachers are instructed in aviation educational approaches to be used in interdisciplinary classroom exercises with a focus on student motivation. Teachers have an hour of an onsite workshop and two hours of in-class follow-up activities. Recertification has a credit of 8 hours.

Robert Woody
Chief of Interpretation
Cape Hatteras Group
Wright Brothers NM
Route #1, P.O. Box 675
Manteo, NC 27954
Phone: (919) 473-211, Ext. 112
FAX: (919) 473-2595

A Home for Pearl*

A Home for Pearl is an instructional videotape and accompanying teacher's guide designed to teach elementary school students about the importance of protecting wildlife habitat. The format of four 15-minute segments allows teachers time for conducting preparatory and follow-up activities. Vocabulary words such as "habitat", "predatory", and "endangered species" appear in bold yellow type on the screen and enhance the educational value of this production. It is co-produced by the U.S. Fish and Wildlife Service, the Colorado Division of Wildlife, and the National Fish and Wildlife Foundation. It is made available free to teachers with funding from the Phillips Petroleum Company.

Karol Media or Gene Dodge
350 North Pennsylvania Avenue
Box 7600
Wilkes Barre. PA 18773-7600
Phone: (800) 526-4773
Fax: (717) 822-8226
e-mail: KarolM@EPIX.NET

Cargo for Conservation*

Cargo for Conservation is a wildlife education program concerning the impact of illegal/mismanaged wildlife trade on federally protected animal and plant species. Hands-on wildlife items (parts and products confiscated by the U.S. Fish and Wildlife Service at U.S. ports of entry) are included with supplemental written materials. The written materials are designed for grades 4-8 but can be used effectively with older audiences. The program is sponsored by the U.S. Fish and Wildlife Service in cooperation with the Union Camp Corporation, the National Wildlife Federation, and the National Fish and Wildlife Foundation. Materials are available for loan to educational institutions.

Thomas Rayl
National Fish and Wildlife Forensics Laboratory
U.S. Fish and Wildlife Service
1490 East Main Street
Asland, Oregon 97520
Phone: (503) 482-4191
Fax: (503) 482-4989

Earth Science Information Centers (ESICs)

Earth Science Information Centers offer nationwide information and sales service for U.S. Geological Survey map products and Earth science publications. This network of ESICs provides information about geologic, hydrologic, topographic, and land-use maps; books and reports; aerial, satellite, and radar images and related products; Earth science and map data in digital format and related application software; and geodetic data. ESICs can also provide information on private and public producers of Earth science-related products throughout the United States. For more information contact any ESIC or call (800) USA-MAPS.

Earth Science Information Center Reston
507 National Center
Reston, VA 22092
Phone: (703) 648-6045 or 800- USA-MAPS
Fax: (703) 648-5548

Earth Stewards*

Earth Stewards is a three-year pilot program based in Pleasantville/Atlantic City, New Jersey; Columbia, Missouri; Lafayette, Louisiana; Chicago, Illinois; Pierre, South Carolina; Chico, California; and Anchorage, Alaska, which empowers members of the community to become stewards of fish and wildlife habitats. At each Earth Steward site resource professionals from either the U.S. Fish and Wildlife

Service or National Biological Survey use their expertise and facilities to develop an environmental education program with teachers, students, parents and community members. Teacher involvement in this program includes an intensive week-long program. Teachers from a variety of disciplines integrate the environmental topic into their classroom lessons and reinforce the topic by exploring myriad approaches to a conservation problem. Both before and after the week-longprogram, teachers reinforce what is learned through additional studies, discussion, and field trips. The programs focus on a specific topic -- such as biodiversity, wetlands, endangered species, or neotropical migratory birds -- and provides students with the opportunity to explore and understand the complexity of an issue.

Teachers receive assistance from resource professionals in developing lesson plans on a local resource issue, acquiring or assembling educaiton kits, and selecting training workshops that will help prepare them in delivery of lessons on the selected natural resource theme. Earth Stewards provides teachers with new ways to engage students in science and other core curriculum by offering hands-on activities, professional mentors, and community stewardships projects.

Claire Cassel
U.S. Fish and Wildlife Service
Office of Training and Education
Arlington, VA 22203
Phone: (703) 358-2504

Educating Teachers*

A continuing teacher education program that offers natural resource/earth science education through a series of two- and three-week courses. Topics of study vary from year to year. A typical program offers 3-4 credit hour graduate level courses.

Roger Hollevoet
Project Leader
P.O. Box 908
Devils Lake NWR
Devils Lake, ND 58301
Phone: (701) 662-8612
FAX: (701) 662-8612

Heritage Education Program*

The Bureau of Land Management's Heritage Education Program is multifaceted, providing educational experiences and teaching resources with a focus on archaeology, history, and paleontology for the school setting as well as for outdoor classrooms, museums, and other informal learning environments. Materials for educators include "Intrigue of the Past," a teacher's guide to archaeology and ideas for classroom activities.

Megg Heath
Project Manager
Bureau of Land Management Imagination Team
Anasazi Heritage Center
P.O. Box 758
27501 Highway 184
Dolores, CO 81323
Phone: (970) 882-4811
e-mail: MHeath@CO0261WP.COSO.CO.BLM.GOV

Natural Resources in Mathematics for Science for BIA Schools*

This program provides educators at BIA schools with both reference information and curricula-inspiring expertise to help 6th through 12th grade Native American students attending BIA schools understand the importance of the petroleum industry to the American society; how oil and natural gas are formed and produced; and the economic impact of oil and gas revenues to Tribal governments and individual mineral owners. Through this effort, BIA teachers will be able to better prepare their students (many of whom will become heir to tribal and family mineral resources) for future responsibilities.

William Trujillo
Senior Program Analyst
Box 25165, MS 3010
Denver, CO 80225
Phone: (303) 231-3350
FAX: (303) 231-3780

Natural Science Workshop for Teachers*

Natural Science Workshops for Teachers is a component of the University of Wyoming's Conservation connection. This cooperative effort between University personnel and land management and wildlife resource agency personnel provides distinctive learning experiences at regionally located sites around Wyoming. Teachers' exposure to Wyoming's spectacular natural resources such as mountains, forest, unique geology, pristine stream, and native wildlife and vegetation promotes the hands-on experience necessary for a good environmental and natural center.

Peg Fleming
Interpretive Specialist
P.O. Box 846
El Malpais National Conservation Area
Grants, NM 87020
Phone: (505) 287-7911
FAX: (505) 285-5041

Nuts About Nature*

Teacher workshops given through the Ozark Unlimited Resources cooperative to teachers from 21 school districts in and around Harrison, Arizona. Practical demonstrations on environmental concepts to assist teachers in these rural areas to learn more about aspects of Buffalo National River.

Douglas Wilson
Chief Park Interpreter
Buffalo National River
P.O. Box 1173
Harrison, AR 72602
Phone: (501) 741-5443
FAX: (501) 741-7286

Parks as Classrooms*

The Parks as Classrooms Program offers teachers an opportunity to use the national parks to augment classroom instruction. Emphasis in most locations is on ecological and biological principles, while at fewer locations geological, meteorological, and oceanographic principles are specified. The National Park Service offers workshops in the parks to encourage teachers to build their curricula around park resources.

Robert Huggins
National Program Director
Parks as Classrooms Program
National Park Service
P.O. Box 37127
Washington, DC 20013-7127

Project Archeology "Intrigue of the Past" Workshops*

The Bureau of Land Management (BLM) has developed "Intrigue of the Past," a series of activities to be used in classrooms to increase a variety of skills such as math, science, writing, and reading. The activities are based on archeology and use both technical and analytical aspects.

Judy Pace, Archeologist
Jackson District
411 Briarwood Drive, Suite 404
Jackson, MS 39206
(601) 977-5400
FAX: (601) 977-5440

Project Learning Tree*

Project Learning Tree is an award winning environmental education program designed for teachers and other educators working with students in pre-kindergarten through 12th grade. PLT uses the forest as a "window on the world" to increase students' understanding of our complex environment, stimulate critical and creative thinking, develop the ability to make informed decisions on environmental issues and instill the confidence and commitment to take responsible action. PLT is a source of interdisciplinary instructional activities and provides workshops and in-service programs for teachers, youth group leaders, and natural resource professionals. PLT teaches students how to think, not what to think. PLT also supplements existing curricula.

Wesley K. Anderson
Wildlife Management Biologist
Socorro Resource Area
198 Neel Avenue
Soccoro, MN 87701

Project Water Education for Teachers (WET)*

Project WET develops diverse and innovative approaches to a balanced water education program that appeals to a wide spectrum of educators and students. Responding to the varied learning styles of young people and highlighting natural and social sciences, mathematics, and the arts, Project WET is producing diverse education publications, models, and programs. States currently involved in Project WET are listed in the State Highlights section of this publication.

Dennis Nelson, Director
National Project WET
201 Culbertson Hall
Montana State University
Bozeman, MT 59717
Phone: (406) 994-5392

Suitcase for Survival*

Suitcase for Survival is a special education campaign to acquaint young people with protected wildlife and how illegal trade in these species threatens them with extinction. The program is a cooperative effort sponsored by the U.S. Fish and Zoo and Aquarium Association, the World Wildlife Fund, and the National Fish and Wildlife Foundation. Suitcases, donated by American Tourister, are filled with confiscated wildlife products, accompanied by educational materials. Operated nationally through zoological parks across the country, the program sponsors training classes for teachers to enable them to use the suitcases and recommends curriculum to help children understand the connection between living animals and the products in the suitcases. Teacher professional development is a major component of this program. Teachers are required to take training in order to participate in the Suitcase for Survival.

Lynn Baptista
Director of Education
American Zoo and Aquarium Association
7970-D Old Georgetown Road
Bethesda, MD 20814
Phone: (301) 907-7777
e-mail: LHB@AOL.COM

Teacher Conservation Workshop*

The practical workshop emphasizes the importance of conservation of natural resources, with special attention given to Mississippi's forest and forest products. The subject and field trip are conducted by foresters, conservationists, and scientists from industry and participating agencies and institutions.

Clay Moore
Natural Resource Specialist
Jackson Mississippi District
411 Briarwood Drive
Suite 404
Jackson, MS 39206
(601) 977-5439
FAX (601) 977-5440

Teacher Intern Program*

This program brings teachers to Yosemite to live for 5 weeks in the summer while developing curriculum-based programs related to the natural and cultural history of the park. The results are made available to teachers outside the park. Programs are hands-on, interactive and interdisciplinary. The program includes work on Yosemite's new "Traveling Trunks" program, where trunks will be packed with items of cultural and natural interest, along with classroom activity packets and will be sent to school districts upon request.

Sue Branch
Education Specialist
Yosemite National Park
P.O. Box 577
Yosemite, CA 95389
Phone: (209) 372-0644
FAX: (209) 372-0458

Teachers and Rangers in Partnership for Students (TRIPS)*

Teachers and Rangers in Partnership for Students workshops are conducted onsite to help teachers become familiar with park resources and to assist them in organizing their units of study to coincide with field trips. An exchange of ideas and suggestions between park staff and educators is encouraged. Recertification credit is given for participation.

Janet Brittain
Education Specialist
Petersburg National Battlefield
P.O. Box 549 Highway 36E
Petersburg, VA 23804
Phone: (804) 732-6094
FAX: (804) 832-0835

Using the Outdoors for Learning*

This is a graduate-level course for teachers and graduate level college students designed to familiarize students with challenges in natural resource management, introduce existing environmental education curricula dealing with natural resources, and nontraditional techniques in teaching concepts in ecology and natural resource management. Hands-on and active classroom and field trip time is included.

Van Waggoner
Education Specialist
Anchorage District
6881 Abbot Loop Road
Anchorage, AK 99507
Phone: (907) 267-1226
FAX: (907) 267-1267

Utah Project Archeology: Intrigue of the Past*

Project Archeology is designed to teach Utah residents about their cultural heritage so that they are equipped to make wise decisions concerning the use and protection of archeological sites. Lessons enhance Utah studies, social studies, science, language arts, art and mathematics. Activities are hands-on, address multiple learning/teaching styles, employ higher level and critical thinking skills, and can be used for cooperative learning. Archeological conservation ethics, Native American perspectives on archeology, and problem solving are emphasized. The program targets 4th to 12th grade teachers and consists of three integral components: quality educational materials; delivery of materials through 10 one-hour in-service and pre-service workshops; and ongoing professional support for educators using the program.

Jeanne Moe
Archeologist
Bureau of Land Management
P.O. Box 45155
Salt Lake City, UT 84145-0155
Phone: (801) 559-4060
Toll free: 800-722-3988

Watchable Wildlife

Watchable Wildlife will create a national network of wildlife viewing areas by forming State coalitions that consist of federal agencies, nonprofit organizations, and environmental associations. Teachers may, for a small fee, purchase a guidebook to their State's Watchable Wildlife facilities. Future plans include the development of interpretive exhibits, visitor centers, environmental and conservation programs, and educational materials. Currently, 20 States participate in this program.

Mark Hilliard, Coordinator
Wildlife Appreciation Program Manager
Western Fish and Wildlife Staff
3380 Americana Terrace
Boise, ID 83706
Phone: (208) 384-3088
Fax: (208) 384-3083

U.S. Department of Justice

Improvements in Corrections Education for Incarcerated Juveniles

The Juvenile Corrections Education Grant was awarded to the National Organization for Social Responsibility (NOSR). The overall goal of this program is to improve the educational programming offered to incarcerated juveniles. A key component of this grant is equipping staff within each facility with the skills they will need to implement effective educational and learning practices.

To date, the grantee has: conducted an extensive literature search of effective educational practices within Juvenile Corrections, Job Corps, JTPA, and Effective Schools Research; published a 193-page publication entitled "Effective Practices in Juvenile Corrections Education: A Study of the Literature and Research, 1980-1992 (Available from the Juvenile Justice Clearinghouse, 1-800-638-8736); A Juvenile Corrections Education Training and Technical Assistance Manual. In addition, the grantee has selected and been working with three state juvenile corrections facilities in Arizona, Colorado, and Minnesota.

Mr. Frank Smith, Program Manager
The National Office of Social Responsibility
222 S. Washington Street
Alexandria, VA 22314
(703) 549-5305

Office of Juvenile Justice and Delinquency Prevention Programs

The Office of Juvenile Justice and Delinquency Prevention (OJJDP) administers a diverse program agenda to foster improvement in the nation's understanding of and response to delinquent youth and missing children. OJJDP strives to provide guidance and support to juvenile justice professionals, researchers, policy makers, and trainers who design, implement, and test innovative program approaches. The OJJDP follows a number of key principles in funding projects. They include: strengthening families; supporting core social institutions; promoting prevention strategies and programs; intervening immediately and effectively when delinquent behavior occurs; and identifying and controlling the small percentage of serious, violent, and chronic juvenile offenders. OJJDP funds a myriad of projects centered on these five principles.

Marilyn Silver
Management Analyst
Office of Juvenile Justice and Delinquency Prevention
U.S. Department of Justice
633 Indiana Avenue, NW
Washington, DC 20531
Phone: (202) 307-0751

"Youth for Justice" - Law-Related Education Program

The "Youth for Justice" Program in an Office of Juvenile Justice and Delinquency Prevention (OJJDP) funded initiative designed to teach young people an understanding and respect for the law to curb the development of delinquent behavior. A key component of this program is the provision of Law-Related Education services to students, teachers, lawyers, judges, juvenile officers, and legislators nationwide. Five grantees were awarded funding to promote law-related education programs. They are the American Bar Association (ABA), the Center for Civic Education (CCE), the Constitutional Rights Foundation (CRF), National Institute for Citizen Education in the Law, and the Phi Alpha Delta Public Service Center.

NICEL provides training and technical assistance, develops and field tests curricula, coordinates national conferences, conducts workshops, and coordinates the activities of the five national organizations in the national Law-Related Program. CCE has developed multimedia instructional units, including student books and teachers' educations on the concepts of authority, responsibility, justice and privacy. As of September 1992, the center had trained 181 teacher trainers to deliver training to teachers to provide law related education. CRF trained 4,256 persons in 1992, and provided technical assistance to 749 sites. Between 1991 and 1992, ABA conduced the Advanced Leadership Training Seminar for School Administrators; provided nine technical assistance trips to states who were developing Law-Related Education programs; and responded to 2,500 requests for information at the ABA's Law-Related Education clearinghouse.

For further information on the Law-Related Education Grants contact:

Frank Porpotage, Program Manager (OJJDP) at (202) 307-0598
Lee Adetman, Project Director (NICEL) at (202) 546-6644

U.S. Department of Transportation

Aviation Education*

Promotes development and enhancement of education in aviation; creates career awareness in aviation at the elementary and secondary educational levels; prepares qualified individuals to meet the future needs of aviation; and aids educators by providing aviation information they can readily use in their normal classroom curriculum or in special classroom projects, to improve communication skills in math, science, technology, and computer literacy as it relates to aviation; and helps educators identify the learning needs of our society in this rapidly changing technological era.

Phil Windroff
Civil Aviation Information Distribution Division
Aviation Education Program
AHT, 100, Federal Aviation Administration
Department of Transportation
400 7th Street, SW
Washington DC 20590
Phone: (202) 366-4000

U.S. Department of Veterans Affairs

The Alternative Teacher Certification Program

The Department of Veterans Affairs administers a program entitled the Alternative Teacher Certification. This is a pilot program which allows beneficiaries to receive benefits for alternative teacher programs. The pilot program will end on September 30, 1996. Legislation is pending which would continue the program.
An alternative teacher certification program is one which is designed for an individual who possesses a bachelor's degree, but does not have education credits to obtain this certificate without reenrolling in an institution of higher learning and pursuing another bachelor's degree. Alternative teacher certification programs often include training conducted at an institution of higher learning, in addition to classroom experience and training provided by other entities.

Educational Assistance Programs

The Department of Veterans Affairs administers a variety of educational assistance programs for veterans, service persons, eligible dependents and members of the Selected Reserve. The best known program is the Montgomery GI Bill. There are actually two distinct versions of the Montgomery GI Bill. The first is the Montgomery GI Bill-Active Duty, which provides benefits for those who have been discharged from service (veterans) and those who are still on active duty (service persons). The other portion is the Montgomery GI Bill - Selected Reserve. Another significant program, although much smaller in terms of overall participants, is the Dependents' Educational Assistance program. This program provides education benefits for spouses, surviving spouses and children.

Eligible individuals may pursue a wide variety of training opportunities, including undergraduate and graduate degree programs at colleges and universities. The vast majority of trainees pursue college training. Some of these college students would, of course, be pursuing training to become teachers.

Contact for both programs:

Celia P. Dollarhide, Director
Education Service (22)
Department of Veterans Affairs
810 Vermont Avenue, NW
Washington, DC 20420
(202) 273-7185
FAX (202) 275-2636

INDEPENDENT AGENCIES

The Environmental Protection Agency

Environmental Education Grants Program*

The Environmental Education Grants Program provides financial support for projects which design, demonstrate, or disseminate environmental education practices, methods, or techniques. The goal of environmental education is to increase public awareness and knowledge about environmental issues, and to provide the public with the skills needed to make informed decisions and to take responsible actions. Environmental education enhances critical thinking, problem solving, and effective decisions-making skills. It also teaches individuals to weigh various sides of an environmental issue to make informed and responsible decisions. Grantees include state and local education agencies and environmental agencies, colleges and universities, and non-profit organizations.

George Walker
Environmental Education Specialists
Office of Environmental Education
Office of Communication, Education and Public Affairs
U.S. Environmental Protection Agency (1707)
401 M Street, SW
Washington, DC 20460
(202) 260-8619

Environmental Education and Training Partnership*

The Environmental Education and Training Partnership (EETAP) has been formed by the North American Association for Environmental Education (NAAEE) with approximately $2 million in 1995-96 for the first year of this three-year program. EETAP is a partnership of 18 organizations which will deliver environmental education training to K-12 education professionals. It will focus on enhancing existing quality training efforts, evaluating and disseminating information on quality education materials and programs through an electronic resource library, and strengthening and expanding partnerships and networks. This project builds upon the work initiated in 1992 by the University of Michigan-led National Consortium for Environmental Education and Training (NCEET)

Kathleen MacKinnon
Environmental Education Specialists
Office of Environmental Education
Office of Communication, Education and Public Affairs
U.S. Environmental Protection Agency (1707)
401 M Street, SW
Washington, DC 20460
(202) 260-8619

NASA

Aerospace Education Services Program*

Provides information about U.S. aeronautics and space research and development activities and their results, to enhance the knowledge of students and teachers and motivate them in science education and careers, to enrich the regular curricula, and to assist with in-service teacher training. Schools, teacher training institutions, colleges, universities, civic groups, museums, and planetaria.

Contact the education officer at nearest NASA Field Center:
Moffett Field, California 94025; Goddard Space Flight Center, Greenbelt, Maryland 20771; John F. Kennedy Space Center, Florida 32899; Langley Research Center, Langley Station, Hampton, Virginia 23365; Lewis Research Center, 21000 Brookpark Road, Cleveland, Ohio 44135; Johnson Space Flight Center, Houston, Texas 77058; Marshall Space Flight Center, Huntsville, Alabama 35812; Stennis Space Center, Stennis Space Center, Mississippi 39529.

Aerospace Education Services Project*

Supports education programs that provide information about U.S. aeronautics and space research, development activities and their results; enhance the knowledge of students and teachers and motivate them in science education and careers; enrich the regular curricula; and assist with in-service teacher training. Schools, teacher training institutions, institutions of higher educations, civic groups, museums, and planetaria.

Richard Adams
National Air and Space Administration
Education Branch, Suite 950
500 E Street, SW
Washington, DC 20024
Phone: (202) 453-2991
Fax: (202) 755-0099

The National Endowment for the Arts

ArtsEdge: National Arts Education Information Network*

The Arts Endowment wants to help those involved in arts education organize and share their knowledge with each other and with others outside the arts. The Arts Endowment, together with the U.S. Department of Education, is supporting the development of a national arts and education information network called "ArtsEdge." This concept was supported by the findings of an Endowment-supported feasibility study and the recommendations of the National Arts Education Partnership Working Group (a national task force) which called for a "proactive national system for gathering and disseminating information resources." Computer-based and interactive, the network is being developed by the John F. Kennedy Center for the Performing Arts to:

> connect people to people and to information (through interactive technologies e.g. electronic mail, on-line forums and conferences, and access to multi-media resources);
>
> build a computerized database about promising arts education programs and practices; and
>
> join with other networks in the arts and in education.

Now in its pilot phase, the network has begun to develop a critical mass of information and users; over 20,000 people visit its home page every week to see new content on educational reform, curriculum, promising programs and practices, and new research. Moreover, the content is organized along exciting and useful categories such as community connections, resources for students, and a unique Curriculum Studio for the development of new curricula in the arts. ArtsEdge has a actually entered the "fast lane" of the information highway -- it is available via the World Wide Web at <http://artsedge.kennedy-center.org>.

Scott D. Stoner
ArtsEdge: National Arts and Education Information Network
The John F. Kennedy Center for the Performing Arts
Washington, DC 20566-0001
(202) 416-8871
e-mail: stoner@artsedge.kennedy-center.org

Arts Education Fellowships*

The fellowships are intended to: recognize superior teachers of the performing, visual, literary, and media arts; strengthen teachers' knowledge of, and experience and skills in, the arts; and focus this intellectual energy toward the ultimate benefit of students in the classroom. Teachers spend four to eight weeks of summer in full-time independent study in the arts. Teachers who: (1) are employed full-time in elementary, middle, or high schools, either as arts specialists or general classroom teachers; (2) hold a master's degree or show equivalent evidence of continuing professional growth in the arts; (3) possess a record of substantial involvement and accomplishment in arts education and demonstrate a capacity for independent study in the arts; and (4) plan to continue teaching the arts in grades K-12 for at least the year following the fellowship.

One award winner in Wisconsin pursued independent study of jazz education materials and, subsequently, developed a jazz improvisation program for elementary school students. One New Jersey art teacher and ceramist studied crystalline glazes and applied that new knowledge to interdisciplinary teaching with his school's chemistry classes. A teaching sculptor created a new work based on her research into experiences of African-American women, translating her impressions of women and race into visual metaphors.

Susannah Patton and Elsa Little
Council for Basic Education (funded by National Endowment for the Arts)
Arts Education Fellowships
1319 F Street, NW, Suite 900,
Washington, DC, 20004
Phone: (202) 347-4171.

The Goals 2000 Arts Education Partnership*

The National Endowment for the Arts, in partnership with the U.S. Department of Education, convened a series of three meetings during the summer and fall of 1994 known as the Goals 2000 Arts Education Action Planning Process. The purpose of this process was to develop a plan for collaboration on the national level in order to maximize the role of the arts in improving education and helping schools and students achieve the National Education Goals. The meetings produced an action plan that identified a number of critical actions in which all Americans must be actively involved at the state and community levels in order to realize the benefits of arts in education. A 32-page report from the planning process outlines how the arts can help achieve each of the eight National Education Goals and articulates why the arts are central to successful education reform.

To ensure that the action plan developed by the Goals 2000 Arts Education Action Planning Process would be implemented, the Arts Endowment, in partnership with the Department of Education, is supporting the operating costs of the Goals 2000 Arts Education Partnership. A cooperative agreement has been awarded to the Council of Chief State School Officers, in collaboration with the National Assembly of State Arts Agencies, to establish an office for the Goals 2000 Arts Education Partnership. This office will assure adequate resources are secured to foster communications among Partnership participants, coordinate implementation of the action plan, and hire a director who will manage the operations of the partnership.

For more information on the Goals 2000 Arts Education Partnership or to obtain copies of the advocacy brochure and report, contact:

Goals 2000 Arts Education Partnership
c/o The Council of Chief State School Officers
One Massachusetts Avenue, NW, Suite 700
Washington, DC 20001-1431
Phone: (202) 336-7065
FAX: (202) 408-8076

Promotion of the Arts-Arts in Education*

Encourages state and local arts agencies to develop long-term strategies to help establish the arts as basic to the education of students from prekindergarten through twelfth grade; encourages state and local education agencies to develop and implement sequential arts education programs; encourages the involvement of artists and cultural organizations in enhancing arts in education for a broad segment of the population; encourages the career development of excellent teachers and professional artists involved in education; develops and stimulates research to teach quality education in the arts; encourages the development of improved curriculum materials, evaluation, and assessment of arts education programs; fosters cooperative programs with the U.S. Department of Education; and encourages dissemination of information and research about current and past successful arts education programs. Arts Education Partnership grants, the only grant category at this time, are available for state arts agencies only. The Arts Endowment also supports a limited number of National Leadership Initiatives based on the priorities of the Agency and funds available. Several present arts education initiatives support, directly or indirectly, the professional development needs of teachers and other education service providers. Depending on the type of initiative, grants, or cooperative agreements may be made to nonprofit organizations if donations to such organizations qualify as a charitable deduction under Section 170(c) of the Internal Revenue Code of 1954. This definition includes state and local governments. Requests for proposals are issued by the NEA for most National Leadership Initiatives.

Education and Access Division
Room 703, The Nancy Hanks Center
National Endowment for the Arts
1100 Pennsylvania Avenue, NW
Washington DC 20506
Telephone for Guidelines, (202) 682-5400
for other information, (202) 682-5438

The National Endowment for the Humanities

Independent Study in the Humanities Fellowships*

Designed as a rigorous course of self-directed, independent summer study to ensure educators' intellectual renewal and resurgent enthusiasm for their profession. Applicants must be teachers who: are employed full-time in elementary, middle, or high schools, with at least half their schedule in the humanities; are in their fifth year of full-time teaching and plan to teach the humanities at least five more years; and have not previously been awarded an ISH Fellowship.

Susannah Patton and Elsa Little
Council for Basic Education (funded by National Endowment for the Humanities)
Independent Study in the Humanities
1319 F Street, NW, Suite 900
Washington, DC 20004
Phone: (202) 347-4171.

Promotion of the Humanities-Fellowships for University Teachers

Provides time for uninterrupted study and research by research teachers and faculty members of postgraduate professional schools who can make significant contributions to thought and knowledge in the humanities. The fellowships enable individuals to devote extended periods of uninterrupted time to investigation, reflection, and writing so that they may enlarge their contributions and continue to develop their capacities as scholars and interpreters of the humanities.
While continuing its commitment to the work of established senior scholars, the Endowment also wishes through this program to encourage and sustain the work of junior scholars: people who hold the rank of instructor or assistant professor in departments and programs of academic institutions that grant the Ph.D. In conjunction with the program, the Endowment is offering support of projects in the area of one special NEH initiative, The Emergence of Democracy. Faculty members of departments in universities that grant the Ph.D., faculty members with appointments to interdepartmental programs and central graduate schools that

grant a Ph.D., and faculty members of postgraduate professional schools, and other staff affiliated with these institutions. Although applicants need not have advanced degrees to qualify, they must have completed their professional training before applying. Active candidates for degrees are not eligible, nor are persons seeking support for work leading to degrees. Applicants should be U.S. citizens, native residents of U.S. territorial possessions, or foreign nationals who have lived in the U.S. for at least the three years immediately preceding the application deadline.

Maben Herring
Fellowships for University Teachers
Division of Fellowships and Seminars
National Endowment for the Humanities
Room 316, 1100 Pennsylvania Avenue, NW
Washington, DC 20506
Phone: (202) 606-8466

Promotion of the Humanities-Fellowships for College Teachers and Independent Scholars

Provides opportunities for college teachers and independent scholars to pursue independent study and research that will enhance their capacities as teachers, writers, and scholars or interpreters of the humanities and enable them to make significant contributions to thought and knowledge in the humanities. These fellowships are intended for faculty members of two-year, four-year, and five-year colleges and universities that do not grant the Ph.D., scholars and writers working in institutions with research or education collections such as museums, libraries, and historical associations, and scholars and writers working independently. This program is designed to support both beginning and experienced scholars engaged in a range of activities from general study to specialized research. Fellowships are normally awarded for full-time study, but part-time awards will be made in exceptional cases. In connection with this program, the Endowment is offering support for projects in the area of the Emergence of Democracy, a special NEH initiative. Applicants should be faculty members at two-year, four-year, or five-year colleges or at universities whose campus does not grant the Ph.D. in their general discipline; individuals affiliated with institutions other than colleges and universities; and scholars and writers working independently. Retired faculty members of undergraduate institutions are eligible to apply for support in this program. Although applicants need not have advanced degrees to qualify, they must have completed their professional training before applying. Active candidates for degrees are not eligible, nor are persons seeking support for work leading toward degrees. Applicants should be U.S. citizens, U.S. nationals of American Samoa, or foreign nationals who have lived in the United States for at least the three years immediately preceding the date of the application.

Joseph Neville
Fellowships for College Teachers and Independent Scholars
Division of Fellowships and Seminars
Room 316, National Endowment for the Humanities
1100 Pennsylvania Avenue, NW
Washington, DC 20506
Phone: (202) 606-8467.

Faculty Graduate Study Program for Teachers at Historically Black Colleges and Universities

As a part of the previous grant listing, the National Endowment for the Humanities also announces the continuation of the Faculty Graduate Study Program for teachers at Historically Black Colleges and Universities. The Faculty Graduate Study Program is a special competition designed to strengthen the teaching of the humanities at historically black colleges and universities by providing one year of support for teachers at these institutions to work toward the completion of a Ph.D. in the humanities. The annual application deadline is March 15. Decisions are announced in October. Fellowships are usually awarded during the following academic year. The maximum award is $30,000. The uses of the awards, eligibility, requirements, selection criteria, and stipend allowances for this program are all specific to this program and different from those for Fellowships for College Teachers and Independent Scholars. Professors and faculty at Historically Black Colleges and Universities.

Maben Herring
Fellowships for College Teachers and Independent Scholars
Division of Fellowships and Seminars
Room 316, National Endowment for the Humanities
1100 Pennsylvania Avenue, NW
Washington, DC 20506
Phone: (202) 606-8466

Promotion of the Humanities-Foreign Language Education*

The program's objective is to improve the teaching of foreign languages, particularly such less commonly taught languages as Russian, Japanese, Chinese, and Arabic, in the nation's schools, colleges, and universities. Grants support summer institutes for school teachers, with special attention given to: incorporating authentic materials from the target culture into curriculum at all levels of language instruction, including introductory courses; college and university curriculum development and related faculty study aimed at strengthening undergraduate language programs, including those for prospective school teachers; and various special projects to strengthen foreign language education. State and local governments; sponsored organizations; public and private nonprofit institutions/organizations; other public institutions/organizations; federally recognized Indian tribal governments; Native American organizations; U.S. territories; non-governmental organizations; minority organizations; other specialized groups; and quasi-public nonprofit institutions may apply.

Bruce Robinson
Foreign Language Education
National Endowment for the Humanities, Room 302
1100 Pennsylvania Avenue, NW, Washington, DC 20506
Phone: (202) 606-8373

Promotion of the Humanities-Interpretive Research/Humanities, Science and Technology

Supports humanities research designed to deepen our understanding of science, medicine, and technology and its role in our culture. Collaborative or coordinated multiyear projects involving the efforts of several individuals at the professional, post-doctoral, and research assistant levels are encouraged, especially those integrating the work of science and humanities scholars. U.S. citizens and residents, state and local governments, sponsored organizations, public and private nonprofit institutions/organizations, other public institutions/ organizations, federally recognized Indian tribal governments, Native American organizations, other specialized groups, and quasi-public nonprofit institutions.

Dr. Daniel Jones
Humanities, Science and Technology
Division of Research Programs
National Endowment for the Humanities, Room 318
1100 Pennsylvania Avenue, NW
Washington, DC 20506
Phone (202) 606-8210

Promotion of the Humanities-Interpretive Research Program/ Collaborative Projects

Supports broadly defined, significant research in all fields of the humanities. Grants are generally collaborative, multiyear projects involving the efforts of several individuals at the professional, postdoctoral, and research assistant levels as well as foreign and domestic archaeology projects. The program encourages research that brings to bear the knowledge, methods, and perspectives of the humanities on the subjects of science, technology, and medicine. These programs provide support for conferences designed to advance research on topics of importance in the humanities. Conference projects must address research questions or assess research methods. U.S. citizens and residents, state and local governments, sponsored organizations, public and private nonprofit institutions/organizations, other public institutions/organizations, federally recognized Indian tribal governments, Native American organizations, U.S. Territories, non-governmental organizations, minority organizations, other specialized groups and quasi-public nonprofit institutions are eligible to apply. Conference grants are made to eligible institutions, not to individuals.

David Wise
Division of Research Programs
National Endowment for the Humanities, Room 318
1100 Pennsylvania Avenue, NW
Washington, DC 20506
Phone: (202) 606-8210

Promotion of the Humanities-Study Grants for College and University Teachers

Provides support for individual teachers at universities and two- and four-year colleges to undertake six weeks of full-time study in the humanities. Applications may come from persons employed by colleges and universities. Full-time faculty, adjunct faculty, and administrators must have regular undergraduate teaching responsibilities in the humanities. Applicants must have taught undergraduate humanities courses during the 1991-92 and 1992-93 academic years and intend to return to teaching at the conclusion of the project. Although applicants need not have advanced degrees to qualify, they must have completed their professional training before applying. Active candidates for degrees are not eligible, nor are persons seeking support for work leading to degrees. Applicants should be U.S. citizens, U.S. nationals of American Samoa, or foreign nationals who have been residing in the United States for at least the three years immediately preceding the date of application. Faculty are not eligible if they have received within the last five years a major grant for research of more than $10,000 from outside their own institution, an NEH Fellowship for College or University Teachers, a Summer Stipend, or a Study Grant.

Clayton Lewis
Division of Fellowships and Seminars
Study Grants for College and University Teachers
National Endowment for the Humanities, Room 316
1100 Pennsylvania Avenue, NW
Washington, DC 20506
Phone: (202) 606-8463

Promotion of the Humanities-Summer Seminars for College Teachers

Provides opportunities for teachers in five-, four-, and two-year colleges; for scholars employed in libraries, museums, historical associations, and other humanities institutions; and for independent scholars to work during the summer in their areas of interest under the direction of distinguished scholars at institutions with library resources suitable for advanced study and research. Seminars offered in this program deal with significant works or topics in the humanities. Distinguished scholars and teachers at institutions with libraries suitable for significant research in the humanities or with specialized holdings in the area of the seminar and with facilities adequate for hosting the seminars.

Joel Schwartz
Summer Seminars for College Teachers
Division of Fellowships and Seminars
National Endowment for the Humanities, Room 316
1100 Pennsylvania Avenue, NW
Washington, DC 20506
Phone: (202) 606-8463

Promotion of the Humanities-Summer Seminars for School Teachers*

Provides opportunities for school teachers to work during the summer under the direction of a distinguished teacher and active scholar at colleges and universities throughout the country, studying seminal works in the humanities in a systematic and thorough way. Teachers and scholars in the humanities; primarily K-12 teachers in public, private, or parochial schools.

Michael Hall
National Endowment for the Humanities
Division of Fellowships and Seminars, Room 316
1100 Pennsylvania Avenue, NW
Washington, DC 20506
(202) 606-8463

Promotion of the Humanities-Summer Stipends

Provides support for individual faculty and staff members at universities and two-year and four-year colleges and for others who have made or have demonstrated promise of making significant contributions to the humanities, in order to pursue two consecutive months of full-time study or research on a project in the humanities. College and university faculty and staff and independent scholars. There is a nomination process, and applicants should contact the Endowment for additional details.

Thomas O'Brien
Division of Fellowships and Seminars
Summer Stipends
National Endowment for the Humanities, Room 316
1100 Pennsylvania Avenue, NW
Washington, DC 20506
Phone: (202) 606-8551

NEH Fellowship Program for Foreign Language Teachers, K-12*

To recognize and encourage excellence in the teaching of foreign languages, this program offers stipends to teachers to spend six weeks abroad developing an in-depth understanding of foreign languages and cultures. The program is based on the premise that intensive study in an immersion setting is the most productive way for highly motivated and experienced language teachers to improve their knowledge and proficiency. Teachers who: (1) have been teaching for three years full-time prior to the fellowship summer, with at least one-half of the schedule teaching foreign languages; (2) are employed by a U.S. school or a U.S. school abroad; (3) intend to teach foreign languages at least five more years; (4) agree not to accept another full-support grant during the fellowship period; and (5) are not teachers of ESL and bilingual education.

Naima Gherbi
Program Director
NEH Fellowship Program for Foreign Language Teachers K-12
Connecticut College
270 Mohegan Avenue
New London, Connecticut 06320-4196
Telephone: (203) 439-2282

Promotion of the Humanities--Centers for Advanced Study (45.122)

Supports interrelated research in well-defined subject areas through block fellowship grants at independent centers for advanced study, American research centers overseas, and independent research libraries and museums. Independent centers for scholarly research may apply for funds with which to offer one or more fellowships within the framework of their own fellowship programs. The grants are intended to provide funds for fellowship stipends and standard allowances only. They may not be awarded to degree candidates or for study leading to advanced degrees. Fellowship tenure must be at least 6 and not more than 12 consecutive months in duration. Fellowship recipients must be granted all benefits, services, and accommodations normally accorded other fellows at the center.

Division of Research Programs
Centers for Advanced Study, Room 318
National Endowment for the Humanities
1100 Pennsylvania Avenue, NW
Washington, DC 20506
Phone: (202) 606-8210.

Promotion of the Humanities--Elementary and Secondary Education in the Humanities*

To increase the effectiveness of humanities teaching in the nation's elementary, middle, and secondary schools. The purpose of the program is to strengthen instruction principally through faculty development. State and local governments; public and private nonprofit institutions/organizations, federally recognized Indian tribal governments, Native American organizations, U.S. Territories, non-government organizations, minority organizations, other specialized groups, and quasi-public nonprofit institutions.

Bruce Robinson
National Endowment for the Humanities
Elementary and Secondary Education in the Humanities, Room 302
1100 Pennsylvania Avenue, NW
Washington, DC 20506
Phone: (202) 606-8377

Promotion of the Humanities-Higher Education in the Humanities

Assists institutions of higher education in their efforts to improve the teaching of the humanities. Whether interdisciplinary or centered in a single discipline, projects should be firmly grounded in the study of humanities texts and materials. Most projects are planned and implemented by groups of faculty members within a college or university working with deans or department chairmen. Projects may also be proposed by cultural institutions or professional associations. The program provides support for many types of activities: institutes for college and university faculty give teachers opportunities for intensive study of important materials in the humanities directed by leading scholars in the field; projects to benefit teaching in the humanities, including activities that reach across the various levels of instruction; programs to improve the humanities preparation of future school teachers, to improve the teaching of foreign languages, and to develop or strengthen core curricula in colleges and universities, and curriculum projects in higher education that illuminate the connections among science and the humanities. State and local governments, sponsored organizations, public and private nonprofit institutions/organizations, federally recognized Indian tribal governments, Native American organizations, U.S. Territories, non-government organizations, minority organizations, other specialized groups, and quasi-public nonprofit institutions.

Lyn Maxwell White
Higher Education in the Humanities
National Endowment for the Humanities, Room 302
1100 Pennsylvania Avenue, NW
Washington, DC 20506
Phone: (202) 606-8380

Special Opportunity in Foreign Language Education*

Grants support summer institutes for school teachers on incorporating authentic materials from the target culture into curriculum at all levels of language instruction, including introductory courses; college and university curriculum development and related faculty study aimed at strengthening undergraduate language programs, including those for prospective school teachers; and various special projects to strengthen foreign language education. Public and private elementary and secondary schools, school systems, two- and four-year colleges and universities, nonprofit academic associations, and cultural institutions, such as libraries and museums.

Bruce Robinson
Foreign Language Education
National Endowment for the Humanities, Room 302
1100 Pennsylvania Avenue, NW
Washington, DC 20506
Phone: (202) 606-8377

National Science Foundation

Alliances for Minority Participation Program

The Alliances for Minority Participation (AMP) Program is a multi-disciplinary comprehensive undergraduate program designed to increase substantially the quality and quantity of students receiving baccalaureate degrees in science, mathematics, engineering, and technology and subsequently, to increase the number of students entering graduate schools to obtain the doctorate in SMET fields normally supported by NSF. The AMP program focuses on removing barriers that prevent full preparation for a participation in the SMET work force by all students. The program focuses on those students who are underserved by our current educational system, including those who are economically disadvantaged, have low participation in SMET enterprise, and are in educational settings that do not encourage full use of their academic potential to succeed in SMET fields. The AMP program supports undergraduate systemic reform in alliances that include partners from both two- and four-year higher education institutions, businesses and industries, national research laboratories, local state, and federal agencies. The AMP program supports a teacher preparation (AMP-TP) initiatives focused specifically on attracting more individuals from groups under represented in the science and mathematics teacher work force into undergraduate teacher preparation programs.

Alliances for Minority Participation
Division of Human Resources Development
National Science Foundation
4201 Wilson Boulevard
Arlington, VA 22230
Phone: (703) 306-1633

Applications of Advanced Technology Program

Provides research and development grants to examine the strengths and weaknesses of new, innovative applications of advanced technologies, and to lay the foundations and knowledge necessary for the use of new, revolutionary computer and telecommunications systems and related technologies for teaching and learning science and mathematics. Individual institutions or groups of institutions within the United States.

Nora H. Sabelli
Program Director
Applications of Advanced Technology Program
Division of Research, Evaluation and Communication
National Science Foundation
4201 Wilson Boulevard
Arlington, Virginia 22230
Phone: (703) 306-1650

Collaboratives for Excellence in Teacher Preparation Program*

The NSF Collaboratives for Excellence in Teacher Preparation Program supports projects aimed at major changes in approaches to the undergraduate preparation of future teachers of elementary and secondary science and mathematics. This includes development of new institutional structures, the production of creative materials, courses and curricula for teacher education, and research on factors affecting the recruitment and preparation of teachers. Projects demonstrate leadership by the scientific discipline departments, and emphasize a solid foundation in science or mathematics and rigorous attention to effective teacher practices, including the use of advanced instructional technologies. Special interests include multidisciplinary projects and initiatives for recruiting members of under represented groups into the teaching profession. Collaborations among scientists, science educators, teachers, and other educational leaders, within and among institutions of higher education and school systems, are encouraged in the planning and implementation of projects. Colleges and universities or their consortia that have the capacity to prepare significant numbers of highly qualified teachers are eligible to submit proposals.

Collaboratives for Excellence in Teacher Preparation
Division of Undergraduate Education
National Science Foundation
4201 Wilson Boulevard
Arlington, VA 22230
Phone: (703) 306-1668

Comprehensive Partnerships for Minority Student Achievement Program*

The Comprehensive Partnerships for Minority Student Achievement Program supports comprehensive precollege education reform programs targeted at school systems having significant minority student populations. City and county school systems, which are the units of change, are expected to link with institutions of higher education, businesses, professional organizations, community-based, and other education organizations in the design and implementation of in-school student and teacher enhancement activities and informal education efforts. The program's goals are to improve student achievement in mathematics and science courses, to enhance teacher knowledge and skills, and to expand student interest in science, mathematics, and technology as career choices. Academic institutions and nonprofit organizations are eligible to apply for funding through this program.

Betty Jones
Comprehensive Partnerships
 for Minority Student Achievement Program
Division of Human Resource Development
National Science Foundation
4201 Wilson Boulevard
Arlington, VA 22230
Phone: (703) 306-1633

Presidential Awards for Excellence in Science and Mathematics Teaching*

These awards are designed to demonstrate the importance of good teaching by explicitly recognizing and rewarding the excellence achieved by exemplary mathematics and science teachers, K-12. Four teachers per year per state are selected as Presidential Awardees in elementary mathematics, elementary science, secondary mathematics, and secondary science. These teachers constitute a national network of outstanding leaders in science and/or mathematics education. Teachers can be nominated by colleagues, administrators, students, or parents of students. Eligible teachers include those whose primary responsibility is classroom teaching of science or mathematics in a public or private, elementary, middle/junior, or senior high school in any of the fifty states, the District of Columbia, Puerto Rico, the Department of Defense Dependant Schools, or the U.S Territories (Guam, American Samoa, the Commonwealth of Northern Marinas, and the Virgin Islands). A minimum of five years of teaching experience is required.

Emma Walton
National Science Foundation
Presidential Awards for Excellence in Science and Mathematics Teaching
Division of Elementary, Secondary and Information Education
National Science Foundation
4201 Wilson Boulevard
Alexandria, Virginia 22230
Phone: (703) 306-1613

Program for Persons With Disabilities*

The NSF Program for Persons With Disabilities has recently been expanded and is committed to bringing about change in academic and professional climates, developing new methods of teaching science and mathematics, increasing the awareness and recognition of the needs and capabilities of students with disabilities, promoting the accessibility and appropriateness of instructional materials and education technologies, and increasing the availability of mentoring resources. Though the Foundation encourages persons with disabilities to participate fully in all NSF-supported programs, its Human Resource Division has initiated efforts focused on (1) eliminating barriers to the participation of students with disabilities in science, engineering, and mathematics studies; (2) changing the attitudes of the education community and the public in general about the potential of persons with disabilities; and (3) offering aid for adaptive technologies and assistance to allow students, scientists, engineers, and mathematicians to participate in NSF-supported research.

Program for Persons With Disabilities
Division of Human Resource Development
National Science Foundation
4201 Wilson Boulevard
Arlington, VA 22230
Phone: (703) 306-1637

Program for Women and Girls*

The goal of the Program for Women and Girls is to elicit projects that have high potential for effecting both short- and long-term changes in the representation of women in science, engineering, and mathematics careers, and in the overall science, engineering, and mathematics education of women and girls. Efforts involved in the initiative address educational issues from preschool through the graduate level, as well as professional issues. Three program activities--Model Projects, Experimental Projects, and Information Dissemination Activities for Women and Girls--accomplish this goal.

Lola Rogers
Program for Women and Girls
Division of Human Resource Development
National Science Foundation
4201 Wilson Boulevard
Arlington, VA 22230
Phone: (703) 306-1637

Rural Systemic Initiatives Program*

The Rural Systemic Initiatives Program (RSI) is an effort on the part of the National Science Foundation to address barriers to systemic and sustainable improvements in science, mathematics, and technology education in rural, economically disadvantaged regions of the Nation. The RSI is designed to fund projects from coalitions in regions defined by similarities in social, cultural, and economic circumstances, rather than by governmental boundaries. The program supports activities that lead to formation of partnerships and coalitions; determination of present needs and resources and of future educational goals; implementation of strategies directed toward systemic educational reform, (such as: professional development for teachers and administrators that is aligned with National science and mathematics standards); adaptation of high quality, challenging curricula to address cultural diversity; and formulation of appropriate assessment strategies that can measure gains in achievement for all students regardless of socioeconomic status.

Rural Systemic Initiatives
Division of Educational System Reform
National Science Foundation
4201 Wilson Boulevard, Suite 875
Arlington, VA 22230
Phone: (703) 306-1684

Statewide Systemic Initiatives Program*

The Statewide Systemic Initiatives Program (SSI) is a major NSF effort to encourage improvements in science, mathematics, and engineering education through comprehensive systemic changes in the education systems for the states.
The SSI program represents a strategy to strengthen the infrastructure for science and mathematics education through alignment of state policies and resources. This requires the collaboration of educators at all levels, business and industry, parents, and the community-at-large. States were selected for funding through a rigorous merit review process that included preliminary proposals, panel reviews of full proposals and site visits. Selection was based on: (1) State commitment to fundamental reform of mathematics and science education; (2) new directions in state vision for mathematics and science education that includes curriculum goals, assessment, teacher development, equity, governance and improved outcomes; (3) consensus on the current status of science and mathematics education and on the identification of the most serious problems that need to be addressed; (4) partnerships that enable the effort to succeed; 5) a plan for effective management and oversight, and 6) an evaluation plan that encourages mid-course corrections. Twenty-five states and Puerto Rico received five-year awards.

Statewide Systemic Initiatives
Division of Educational System Reform
National Science Foundation
4201 Wilson Boulevard, Suite 875
Arlington, VA 22230
Phone: (703) 306-1684
Fax: (703) 306-0456

Teacher Enhancement Program*

The Teacher Enhancement (TE) program provides professional development opportunities that broaden and deepen the disciplinary and pedagogical knowledge of teachers to improve their ability to deliver rich and challenging science, mathematics, and technology (SMT) education to all students. Through active involvement of administrators, projects develop school cultures that provide necessary resources to implement classroom improvements and sustain professional development for teacher participants. Increasing emphasis is given to projects utilizing teacher enhancement as the primary vehicle to implement systemic change in SMT education in school districts that are themselves engaged in renewal. The first systemic projects target SMT education for grades K-8 and mathematics for grades 7-12. All such projects must implement exemplary instructional materials that are aligned with standards and participate in a standardized evaluation. The TE program also supports projects that seek to develop lead teachers and provide research experiences as vehicles for enhancement; projects that provide requisite resources for sustaining and accelerating the rate of SMT education reform; projects to develop instructional materials for teachers; and projects that employ other strategies for the professional development of teachers. Eligible organizations include school districts, colleges and universities, state and local education agencies, professional societies, museums, research laboratories, or other private or public organizations whether for profit or non-profit.

Teacher Enhancement Program
Division of Elementary, Secondary, and Informal Education
National Science Foundation
4201 Wilson Boulevard, Suite 885
Alexandria, VA 22230
Phone: (703) 306-1613

Teacher Preparation in Undergraduate Programs

In addition to the NSF Collaboratives for Excellence in Teacher Preparation, other programs in the Division of Undergraduate Education support teacher preparation. In particular, the Course and Curriculum, Instrumentation and Laboratory Improvement, and Undergraduate Faculty Enhancement Programs support projects which improve the undergraduate preparation of future K-12 teachers. The Advanced Technology Education program targets technicians being educated for the high performance work place of advanced technologies. The program supports technical experiences for students and faculty and K-12 teacher development, development of instructional materials, and instrumentation and laboratory improvement, as well as National/Regional Centers.

Division of Undergraduate Education
Directorate for Education and Human Resources
National Science Foundation
4201 Wilson Boulevard
Arlington, VA 22230
Phone: (703) 306-1666

Urban Systemic Initiatives Program*

The Urban Systemic Initiatives (USI) Program in science, mathematics, and technology education is a comprehensive and systemic effort designed to enable fundamental reform of K-12 science and mathematics education in large urban school systems. Eligibility for the program is limited to school systems in the 25 cities having the largest numbers of school-aged children (ages 5-17) living in poverty as determined by the 1990 Census. Built upon experience gained from the Statewide Systemic Initiatives (SSI) program and the Comprehensive Regional Centers for Minorities (CRCM), the program provides significant support for 5 years to cities that have completed comprehensive planning and demonstrate readiness to make systemic and sustainable changes in the policies, practices, and procedures of urban school systems. At present, 16 eligible cities have received awards.

Urban Systemic Initiatives
Division of Education System Reform
National Science Foundation
4201 Wilson Boulevard
Arlington, VA 22230
Phone: (703) 306-1684

Smithsonian Institution

Harvard-Smithsonian Case Studies in Science Education*

The project will create a series of 25 half hour video case studies accompanied by written guide materials, for use in K-8 preservice and in-service teacher education programs. The project's primary goal is to create visual models of science education reform, and to provoke discussion and critical analysis by the audience of the issues surrounding their application in real-life classrooms.

Nancy Finkelstein
60 Garden Street, Mail Stop 71
Cambridge, MA 02138
Phone: (617) 496-7687
Fax: (617) 496-7670

InSIGHT: Investigative Stimuli for Intuitive Growth using High Technology*

InSIGHT focuses on advanced high school and introductory college physics courses. The project seeks to identify aspects critical to the design of computer simulations for teaching sophisticated physical concepts to students in introductory physics classes.

Philip M. Sadler
60 Garden Street, Mail Stop 71
Cambridge, MA 02138
Phone: (617) 495-9798
Fax: (617) 495-5405

MicroObservatory*

The MicroObservatory project focuses on grades 9-12, and will develop a network of portable, automated, CCD-based (charge-coupled device) reflecting telescopes, accessible to students at their schools and over the Internet. A prototype instrument has been built, and five have been assembled to form a nationwide pilot network.

Steve Leiker
Harvard-Smithsonian Center for Astrophysics
60 Garden Street, MS71
Cambridge, MA 02138
Phone: (617) 495-9798
Fax: (617) 496-5405

National Science Resources Center's Resource Collection*

The National Science Resources Center maintains a comprehensive and growing collection of effective science teaching resource materials. Housed at the Arts and Industries Building of the Smithsonian Institution, the collection holds more than 5,000 volumes. The resource collection is cataloged and accessible through computerized information databases that include annotations as well as bibliographic data. The Resource Center has also produced an annotated guide to elementary science resources, Science for Children: Resources for Teachers. The completely revised and updated second edition is available under a new title, "Resources for Teaching Elementary School Science." A companion volume for middle schools is also under development.

Douglas Lapp
Executive Director
National Science Resources Center, MRC 403
Smithsonian Institution
Washington, DC 20560
Phone: (202) 357-2555
Fax: (202) 786-2028

NSRC Elementary Science Leadership Institutes*

Each summer the National Science Resources Center conducts two Elementary Science Leadership Institutes at the Smithsonian Institution. These Institutes provide teams of administrators, curriculum specialists, teachers, and scientists from school districts across the country with the information and skills they need to develop and maintain effective hands-on elementary science programs. The Institutes are staffed by science educators and scientists who have implemented exemplary elementary science programs in their districts. This Initiative includes technical assistance to school districts across the country that are working to reform their elementary science programs.

Douglas Lapp
Executive Director
National Science Resources Center
MRC 403
Smithsonian Institution
Washington, DC 20560
Phone: (202) 357-2555
Fax: (202) 786-2028

The Private Universe Project*

The Private Universe Project is developing a six-part nationally broadcast television series to help science teachers address student preconceptions in science. The 3-year project, funded in 1992, focuses on grades K-12. The series is derived from work pioneered in Project STAR: Science Teaching through its Astronomical Roots, and is an extension of that project's award-winning video, A Private Universe. The project will alert science teachers to problems posed by their students' preconceived ideas and will encourage them to devise solutions tailored to students' specific needs.

Nancy Finkelstein
60 Garden Street, Mail Stop 71
Cambridge, MA 02138
Phone: (617) 496-7687
Fax: (617) 496-7670

Professional Development Opportunities for Teachers*

Regional workshops and summer institutes conducted in collaboration with local institutions, are designed to strengthen ties between museums and schools nationwide and to contribute to the improvement of teaching methods and materials. Summary courses for metropolitan DC area teachers were taught by educators from throughout the Smithsonian on subjects ranging from African Art to historical documents to zoo animals.

Ann Bay
Office of Elementary and Secondary Education
Smithsonian Institution
Arts and Industry Building, Room 1163
Washington, DC 20560
(202) 357-2425
Phone: (202) 357-2111
Fax: (202) 357-2116

Project ARIES: Astronomy Resources for Intercurricular Elementary Science*

ARIES was funded in 1992 for three years; its initial focus is grades 3-4. The project will develop a modular, hands-on, discovery- based, intercurricular, multicultural physical science program using astronomy as the central focus. Teacher enhancement videos will also be developed in parallel with the curriculum.

Dr. R. Bruce Ward
60 Garden Street, Mail Stop 71
Cambridge, MA 02138
Phone: (617) 495-9798
Fax: (617) 495-5405

Project Designs (Doable Engineering Science Investigations Geared for Non-science Students)*

This program is an NSF-funded project to develop modules of design-based activities using design-to-constraints and testing against nature for inclusion in grades 6-9. The program consists of technology education and physical science courses; development and field trials starting in Fall 1995, to expand nationally in 1996.

Hal Coyle, Senior Writer
Science Education Department
Harvard-Smithsonian Center for Astrophysics
60 Garden Street, MS-71
Cambridge, MA 02138
Phone: (617) 495-9798
Fax: (617) 496-5404
E_Mail: hcoyle@cfa.harvard.edu

Project IMAGE: Investigative Materials About Global Environments*

IMAGE focuses on grades 7-12, with an emphasis on grades 7-9. The project developed and field-tested 17 hands-on, investigative activities using satellite and high altitude imagery to confront students with the problems and challenges of our global environment. A manual of these activities with a teacher's guide will be published in late 1995.

Hal Coyle
Senior Writer
Science Education Department
Harvard-Smithsonian Center for Astrophysics
60 Garden Street, MS-71
Cambridge, MA 02138
Phone: (617) 495-9798
Fax: (617) 496-5404
E_Mail: hcoyle@cfa.harvard.edu

Project SPICA: Support Program for Instructional Competency in Astronomy*

Project SPICA provides astronomy education support to precollege teachers, particularly in grades K-9. The project has prepared some 180 expert teachers in 41 states to provide workshops to other teachers who want to enhance their use of astronomy in their classrooms. The SPICA agents may be contacted through the project office. In addition, a manual containing 37 astronomy activities for grades 2-12, Project SPICA: A Teacher Resource to Enhance Astronomy Education, is available from Kendall/Hunt Publishing Company.

Judith Peritz
Harvard-Smithsonian Center for Astrophysics
60 Garden Street, MS71
Cambridge, MA 02138
Phone: (617) 496-4785
Fax: (617) 496-5405

Science and Technology for Children*

Science and Technology for Children, a curriculum project of the National Science Resources Center, is producing a complete program of science instruction for children in grades 1-6. The 24 units involve children in hands-on investigations of scientific phenomena that enable them to learn by doing.

Douglas Lapp
Executive Director
National Science Resources Center
MRC 403
Smithsonian Institution
Washington, DC 20560
Phone: (202) 357-2555
Fax: (202) 786-2028

Appendices

Appendix I

The Discretionary Grant Cycle: Five Phases

Announcement -- Agencies typically announce a grant competition by publishing in the *Federal Register* a Notice that invites applications for new grants. [NOTE: The *Federal Register* is a daily publication which contains formal public notices issued by federal agency, including those that pertain to grant programs and competitions. Many State agencies and large libraries subscribe, as do the various professional associations. To order contact: Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.]

The notice typically contains information about the program, identifies eligible applicants, any eligibility requirements, and where interested members of the public can obtain an application package, and provides the deadline for transmitting applications, the amount of funds that are available for new awards, the estimated number of awards to be made, and other information. The agency generally announces a grant competition after determining that Congress has appropriated funds for the competition under a new or existing program, and establishing any policies or regulations that may be needed to guide the competition and funded activities under the program.

Application -- Grant programs vary tremendously. While the application package generally contains all of the instructions and information that are needed to prepare a program application and understand how it will be evaluated, each competition will have its own subject-matter focus, requirements, deadlines, expectations, and priorities.

The following tips will help applicants as they prepare their proposals.

First, and most important, **study the specific program, selection criteria and competition** as carefully as possible: Find out what the agency is looking for and how your application should be presented. When preparing your proposal, be as specific as possible, and take care to ensure that it meets the application criteria. Pay particular attention to logistical details: some competitions require preapplication processes; and some applications require clearances before being submitted. In addition, keep in mind the following:

> **Purposes and Objectives**: Take note of the range of purposes and objectives specified in the application instructions. When writing up your proposal, make sure that the statement of purposes and objectives in your proposal fits those in the application instructions; moreover, make sure that your plans show clearly **how** you will be able to fulfill these objectives, and **how** students or teachers will benefit from an award.

Achieving the Goals:

Consistency: Make sure that all of the pieces of your proposal fit together, and that all of them complement your objectives.

Management Plan: Make sure that your proposal can be effectively administered and implemented. In particular, see that the breakdown of tasks is reasonable: that you have the resources and personnel needed to complete the tasks as planned, and that your project will run efficiently.

Time: Include a realistic time schedule for achieving your objectives. Make sure the time frame is feasible in relation to your proposed activities.

Budget: Examine your cost proposal carefully. Make sure that your cost projections make sense, and that the overall costs are reasonable.

Make sure that the your application is returned by the due date in the agency's instructions. Some programs require preapplications and others may offer technical assistance workshops or advice (generally done for formula grant programs rather than purely discretionary programs) to answer questions about the application. Applicants with questions should contact the program manager of the particular grant.

Evaluation -- Many programs use outside field readers to evaluate applications, although some use in-house (departmental) review. Proposals typically are assigned a panel of readers, whose members individually score and comment on the applications. The panel members' scores are then combined or averaged to calculate an application's final score. The readers' scores are based on their review of the proposals in relation to any criteria (and maximum number of points to be assigned to those criteria) established by the program's authorizing legislation or by the agency administering the program. For example, many Department of Education programs either establish their own selection criteria, or rely on the following general criteria contained in the Department's General Administrative Regulations (EDGAR): plan of operation; quality of key personnel; budget and cost effectiveness; evaluation plan; and adequacy of resources.

Negotiation and Award -- From the evaluation scores, the agency generally prepares a rank-order slate of applications to determine the applications to be recommended for funding. Except where an agency has information to warrant changes in funding recommendations, the proposals to be included in the proposed "funding slate" are determined on the basis of the reviewers' assessment of the quality of applications, the proposed budgets in the highest-ranked applications, and the amount of available funding. The projects on the proposed funding slates are then negotiated by specially-trained grants office staff, after which the agency makes final decisions and notifies successful applicants of the award of funds.

Project Implementation -- After an applicant has been selected for funding, it receives a notice of grant award that includes the award of funds, the projected length of the project, and the budget period in which those funds may be expended (typically one year). (For multi-year projects, the agency usually makes new grant awards, sometimes subject to receipt of performance information, before the start of each new budget period.) The notice of grant award also may contain any conditions that govern the use of awarded funds. Subject to any conditions, a grant recipient is responsible for using program funds in ways that implement the activities described in its approved application in accordance with applicable statutes and regulations. At the end of the award period (and, depending on the particular competition, possibly more frequently), grant recipients also are expected to file performance and/or financial reports.

Appendix II

U. S. Department of Education

Challenge Grants for Technology in Education

The Office of Educational Research and Improvement (OERI) makes these grants to consortia comprised of one or more school districts in high poverty areas, businesses, libraries and other appropriate agencies or organizations for the purpose of improving and expanding new applications of technology.

Current consortia are located in the following school districts:

San Diego, California
San Diego Unified School District

The "Triton Project" will improve student performance in mathematics and science, using a combination of technologies in an active learning curriculum with an ocean exploration theme. San Diego public schools are to be networked with each other and with several area museums, research centers and aquariums.

Contact: Richard Fabian
San Diego Unified School District
4100 Normal Street
San Diego, CA 92103
Phone: (619) 225-3416

Redwood City, California
San Mateo County Office of Education

Working through a consortium, Silicon Valley high-tech corporations are providing infrastructure support for reform plans that high schools have developed with their feeder elementary and middle schools. The Challenge Grant provides curriculum support and teacher training, consistent with this overall effort.

Contact: Joe Becerra
San Mateo County Office of Education
101 Twin Dolphin Drive
Redwood City, CA 94065
Phone: (415) 802-5444
FAX: (415) 802-5665

Dover, Delaware
Capital School District

Telecommunications will connect families and schools, extending the time and place for learning and improving communications between parents and teaches. Content is focused on reading and arithmetic in early elementary grades, principally through cost-effective video based on set-top television boxes.

Contact:
William McGlumphy
Capitol School District
945 Forest Street
Dover, DE 19904
Phone: (302) 672-1521
FAX: (302) 672-1714

Waukegan, Illinois
Waukegan Community Unit School District 60

The consortium is working to address problems that the district's schools face as a result of high truancy rates, widespread, poverty, high mobility, and low academic achievement by implementing a community mathematics and science program that relies on innovative uses of technologies. The project has strong school-home, school-community, and school-work components, and provides extensive professional development training.

Contact:
Elaine Armani
Waukegan C U School District 60
1201 N. Sheridan Road
Waukegan, IL 60085-2099
Phone: (708) 360-5440
FAX: (708) 360-5628

Anderson, Indiana
Anderson Community School Corp.

The consortium of local and state agencies in indiana is using innovative technology to raise the academic achievement of over 3,000 underchallenged and at-risk students and their families in six elementary and two middle schools. As part of this effort, the school district will build on previous activities in which a specially trained cadre of teachers and principals temporarily assume the role of entire school faculties to enable educators to participate in professional development activities.

Contact: Terri Austin
Anderson Community School Corp.
30 West 11th Street
Anderson, IN 46016
Phone: (317) 641-2151
FAX: (317) 641-2081

Indianapolis, Indiana
Indianapolis Public Schools

Utilizing the experience and resources of Ameritech, a cellular service provider, the consortium is developing an affordable, scaleable and equitably distributed telecommunication infrastructure linking the North Central Regional Educational Laboratory (NCERL), 25 schools in Indianapolis, 25 schools in Chicago, and 3 in Walled Lake, Michigan. The new network, which directly benefits about 90,000 students, delivers research-based curriculum and technical support in participating schools, and provides professional development activities for the program's teachers.

Contact: John Kern
Indianapolis Public Schools
801 N. Carrolton Avenue
Indianapolis, IN 46202
Phone: (317) 226-4122
FAX: (317) 226-3130

Natchitoche, Louisiana
Natchitoche Parish Public Schools

The consortium is developing comprehensive programs that use telecommunication to increase participation in high-tech learning by underserved K-12 students in five Louisiana districts. The project will integrate Internet resources and K-12 instruction at five pilot sites across the state, and expects to develop transferable models for providing underserved students access to technology. Over five years, the project is expected to serve over 174,000 students in 48 schools and 19 communities.

Contact: Kerry Davidson
Louisiana Systemic Initiative
1885 Wooddale Blvd., 11th Floor
Baton Rouge, LA 78006-1511
Phone: (504) 342-4253
FAX: (504) 342-9318

Baltimore, Maryland
Baltimore City Public Schools

The Baltimore Learning Communities project uses distance learning, interactive cable TV and the Internet to connect schools to homes, places of work, and the community at large. This project provides extensive professional development for teacher, directly involves parents in the education process, and extends a wide range of new educational opportunities to over 38,000 students in the middle and high school levels.

Contact:
Michael Pitroff
Baltimore City Public Schools
2500 E. Northern Parkway
Baltimore, MD 21214
Phone: (301) 396-7607
FAX: (301) 426-6750

White Cloud, Michigan
Newaygo County Intermediate School District

The consortium has been established to develop and maintain an advanced fiber optic cable telecommunications network that will enhance educational opportunities for the county's disadvantaged students and adults,improve the professional development available to the district's teaching staff.and provide a delivery method for improved curricula. The network also supports a unifies effort among all county service agencies as they seek to address social, educational and economic needs of county residents, and supports existing data, video and voice communication capabilities available to all county residents.

Contact:
Larry Ivens
Newaygo County Intermediate School District
4645 West 48th Street
Fremont, MI 49412
Phone: (616) 924-0380
FAX: (616) 924-6311

Omaha, Nebraska
Westside Community Schools

The consortium is a multi-element education program that uses technology to bring museums and other educational resources to K-12 classrooms in Nebraska and other states. The program, which is engaged in creating an integrated arts-focused curricula in all core subject areas, targets over 41,000 students in both urban and rural settings and has a strong professional development component.

Contact: Susan Manuel
Westside Community Schools
909 S. 76th
Omaha, NE 68114-4599
Phone: (402) 390-2124
FAX: (402) 390-2136

Manchester, New Hampshire
Manchester School District

The "Manchester Challenge" project is integrating instructional technologies into curricula of the district's elementary and high schools. Project technologies, which connect all schools throughout the district, include instructional television, satellite broadcasts, multimedia telecomputing, and administrative applications, and benefit over 28,000 students. All participating educators are provided the equipment, training, time and on-going support to enable them to use information technology effectively.

Contact: Terry Bullard
Manchester School District
196 Bridge Street
Manchester, NH 03104
Phone: (603) 624-6300
FAX: (603) 624 6337

Laguna, New Mexico
Pueblo of Laguna Department of Education

"Four Directions" is an education reform project that blends American Indian culture with new educational technologies to revitalize curricula and instruction in Bureau of Indian Affairs (BIA) schools. The project is being piloted in eight schools representing tribal groups in eight states, and ultimately will expand to 24 BIA schools located throughout the country. The project involves K-12 students, parents and members of the community, and provides extensive professional development opportunities for teachers.

Contact: Gilbert Sanchez
Pueblo of Laguna
Department of education
P.O. Box 207
Laguna, NM 87206
Phone: (505) 552-6008
FAX: (505) 552-6398

Cuyahoga Falls, Ohio
Summit County Educational Service Center

The consortium has developed a program through which students use technology students use technology to complete substantive new work that meets high educational standards set forth in new local curricula and the Ohio K-12 Competency Based education standards. The project has a strong professional development component and benefits more than 88,000 students in 18 school districts, one-third of which have high percentages of economically and educationally deprived students.

Contact:
Steve Snyder
Gay Fawcett
Summit Educational Service Center
420 Washington Avenue
Suite 200
Cuyahoga Falls, OH 44221
Phone: (216) 945-5600
FAX: (216) 945-6222

Philadelphia, Pennsylvania
School District of Philadelphia

This consortium has developed a program to invigorate K-12 and adult education programs through the imaginative use of educational technologies. Incorporated within the district's systemic reform effort, the program uses many of the latest developments in telecommunications, multimedia, and computer instruction to build new teaching and learning processes within small learning communities. The resulting "Virtual Schools" represent a fundamental and radical transformation of teaching to emphasize interaction and inquiry for the over 55,000 students who will benefit in the first five years. The program has strong school-home, school-community, school-work components as well as effective support for professional development.

Contact:
Steven Guttentag
School District of Philadelphia
Office of Categorical Support
21st St. S. of the Parkway, Rm. 230
Philadelphia, PA 19103
Phone: (215) 299-4670
FAX: (215) 299-7417

Towanda, Pennsylvania
Towanda Area School District

"New Vision" is a consortium that is designed to demonstrate the dynamic abilities of emerging technologies to expand and improve educational opportunities in rural, remote, poor school districts. The consortium is establishing "distance learning centers" at 23 school districts, six higher education institutions and the State Museum of Pennsylvania, which are being linked electronically to a network of 40 school and agencies. These schools and agencies will be able to offer high-level classes that are not commonly offered due to low enrollment, and exemplary teachers to cover hard-to-fill positions in a number of school districts at once, conduct unique student workshops and offer advanced placement courses. The project will benefit over 54,000 students in three states and contains a strong professional development component.

Contact: Daniel M. Paul
Towanda Area School District
101 N. Fourth Street
Towanda, PA 18848
Phone: (717) 265-9894
FAX: (717) 265-4881

Sturgis, South Dakota
Black Hills Special Services Cooperative

This consortium has organized a state-wide community-focused education program built around introducing innovative technologies in a statewide redesign of K-12 curricula, instruction and assessments, and capitalizing on new technologies to promote student achievement. The program is designed to impact over 14,000 rural students in the first year alone, and has a strong professional development component.

Contact: Jim Parry
Black Hills Special Services Co-op
1925 Plaza Blvd.
Sturgis, SD 57702
Phone: (605) 394-1876
FAX: (605) 394-5315

El Paso, Texas
Socorro Independent School District

The consortium is using technology to rejuvenate the city's schools. The program is designed, among other things, to produce ten restructured partner schools and a teacher preparation institution, fully connected to the Internet and its resources; and teachers who integrate acquired technologies and challenging standards into the curriculum, and who serve as teacher trainers at 70 other schools. The program will benefit over 10,000 students from impoverished neighborhoods, and will enable 1,000 parents to use laptop computers to provide them with technology knowledge and skills.

Contact: Ben DeBellis
Socorro Independent School District
12300 Eastlake Drive
El Paso, TX 79927
Phone: (915) 860-3438
FAX: (915) 858 1520

Price, Utah
Southeast Education Service Center

This telecommunications project is providing educational opportunities to students who live in poor, rural, or culturally disenfranchised communities. The consortium builds upon existing telecommunications networks, and adds a WORLD-Wide Web capability that enables schools to develop on-line educational resources and applications. State parks and National Monument resources will be used to engage students in active learning projects. The project has a strong professional development component that focuses on multiple-uses of the Internet.

Contact: F. Lynn Billis
Southeast Education Service Center
65 East 400 North
Price, UT 84501
Phone: (801) 637-1173
FAX: (801) 637-1178

Montpelier, Vermont
Montpelier School System

The consortium is using multimedia telecommunications to expand portfolio and performance based assessment of student achievement in the arts. Based on the state's Common Core Framework for Curriculum and Assessment, this technology creates a "WEB" of evidence of student performance in multiple learning domains represented by sound, graphics, movement, data and text. The project also stresses the professional development needed to use this technology effectively.

Contact: David Gibson
Montpelier School District
58 Barre Street
Montpelier, VT 05602
Phone: (802) 223-6366
FAX: (802) 223-9227

Appendix III

U.S. Department of Education

National Educational Research and Development Centers

To help improve and strengthen student learning in the United States, the Office of Educational Research and Improvement (OERI) supports National Educational Research and Development Centers. The Centers are conducting research on topics that will help policy makers, practitioners, and parents meet the national education goals by the year 2000. The centers are addressing specific topics such as early childhood education, student achievement in core academic subjects, teacher preparation and training, systemic education reform adn restructuring, school governance and finance, and postsecondary education and life-long learning.

Center for Research on the Education of Students Placed at Risk

Center for Research on the Education
of Students Placed at Risk (CRESPAR)
Johns Hopkins University, CSOS
3505 North Charles Street
Baltimore, MD 21218
(410) 516-8800

Enhancing Young Children's Development and Learning

National Center to Enhance Early
Development and Learning
University of North Carolina at
Chapel Hill
Frank Porter Graham Child
Development Center
CB #4100
Chapel Hill, NC 27599-4100
(919) 966-4250

Improving Postsecondary Education

National Center for Postsecondary
Improvement
Stanford Institute for Higher Education
Research
508 Ceras Building
Stanford University
Stanford, CA 94305-4125
(415) 723-7727

Improving Student Assessment and Educational Accountability

Center for Research on Evaluation,
Standards, and Student Testing
(CREEST)
University of California, Los Angeles
Graduate School of Education
1339 Moore Hall
405 Hilgard Avenue
Los Angeles, CA 90024
(310) 206-1530

Improving Student Learning and Achievement

National Research and Development
Center on Achievement in School
Mathematics and Science
Wisconsin Center for Education
Research
University of Wisconsin--Madison
1025 West Johnson Street
Madison, WI 53706
(608) 263-3605

Increasing the Effectiveness of State and Local Education Reform Efforts

National Research and Development
Center on Increasing the Effectiveness
of State and Local Education Reform
Efforts
Consortium for Policy Research in
Education (CPRE)
Graduate School of Education
University of Pennsylvania
3440 Market Street, Suite 560
Philadelphia, PA 19104-3325
(215) 573-0700, ext. 224

Meeting the Educational Needs of a Diverse Student Population

National Center for Research on
Cultural Diversity and Second
Language Learning
The Regents of the University of
California
The University of California
1156 High Street
Santa Cruz, CA 95064
(408) 459-4114

National Reading Research Center

National Reading Research Center
(NRRC)
University of Georgia
318 Aderhold
Athens, GA 30602-7125
(706) 542-3678

National Research Center on the Gifted and Talented

National Research Cenrer on the Gifted
and Talented (NRC G/T)
University of Connecticut
362 Fairfield Road U-7
Storrs, CT 06269-2007
(860) 486-4676

Student Learning and Achievement in English

National Research Center on Improving
Student Learning and Achievement in
English
The Research Foundation of State
University of New York
University of Albany, SUNY
School of Education
1400 Washington Avenue
Albany, NY 12222
(518) 442-5029

Appendix IV

Regional Education Laboratories

The Office of Educational Research and Improvement (OERI) funds ten regional educational laboratories which work to help educators and policy makers solve education problems in their states and districts. The labs research education issues, print publications, and provide training programs to teachers and administrators. Each lab puts out a catalog of its publications, and provides training covering a wide range of topics such as teaching strategies, school improvement, and parental involvement. Catalogs and publications are available to anyone, regardless of region, and can be requested directly from the labs; other services (training programs, etc.) are region-specific, and must be accessed through district education officials.

Dr. Margaret C. Wang
Executive Director
Mid-Atlantic Laboratory for
Students Success
933 Ritter Annex
13th St. & Cecil B Moore
Philadelphia, PA 19123-4107

Dr. Terry Eidell
Executive Director
Appalachia Educational
Laboratory, Inc.
1031 Quarrier Street
P.O. Box 1348
Charleston, WV 25325

Dr. Roy Forbes
Executive Director
University of North Carolina at
Greensboro
201 Ferguson Bldg.
Greensboro, NC 27435-5367

Dr. Preston Kronkosky
Executive Director
Southwest Educational
Development Laboratory
211 East Seventh Street
Second Floor
Austin, TX 78701-3281

Dr. J. Timothy Waters
Executive Director
Mid-continent Regional
Educational Laboratory
2550 South Parker Road
Suite 500
Aurora, CO 80014

Dr. Dean H. Nafziger
Executive Director
WestEd
730 Harrison Street
San Francisco, CA 94107

Dr. Ethel Simon-McWilliams
Executive Director
Northwest Regional Educational
Laboratory
101 S.W. Main Street, Suite 500
Portland, OR 97204-3212

Dr. John W. Kofel
Executive Director
Pacific Region Educational
Laboratory
828 Fort Street Mall, Suite 500
Honolulu, HI 96813

Dr. Adeline Becker
Acting Director
Northeast and Islands Laboratory
at Brown University
144 Wayland Avenue
Providence, RI 02906

Dr. Jeri Nowakowski
Executive Director
North Central Regional
Educational Laboratory
1900 Spring Rd., Suite 300
Oak Brook, IL 60521-1480

Appendix V

U.S. Department of Education

Office of Elementary and Secondary Education

Comprehensive Regional Assistant Centers

The U.S. Department of Education has established 15 comprehensive Regional Assistance Centers to help states, school districts, schools, tribes, community-based organizations, and other grant recipients with the administration, integration and implementation of programs funded under Improving America's Schools Act (IASA). The Centers will provide high-quality comprehensive training and technical assistance to improve teaching and learning and to meet the needs of children served by IASA programs.

The Centers will team with other national and regional federally supported service providers (e.g. Regional education Laboratories, National Diffusion Network, Eisenhower Regional Mathematics and Science Consortia, Regional Technology Consortia, ERIC system, and National Clearinghouse for Bilingual Education) to support and advance education reform. This network of organizations, working help to improve curricula, instruction, assessments, teacher professional development, and evaluation. The Centers will serve as resources of printed, video, and audio materials that can be used by teachers, parents and students for improving teaching and learing so all students can meet challenging state content and performance standards.

Region I

Vivian Guilfoy, Director
Education Development Center Inc.
55 Chapel Street
Newton, MA 02158-1060
Phone: (617) 969-7100, ext. 2201

(CT, ME, MA, NH, RI, VT)

Region II

LaMar P. Miller. Executive Director
New York University
32 Washington Place
New York, NY 10003
Phone: (212) 998-5100

(NY state)

Region III

Charlene Rivera, Director
George Washington University
1730 North Lynn Street, Suite 401
Arlington, VA 22209
Phone: (703) 528-3588
(DE, MD, NJ, OH, PA, DC)

Region IV

Terry L. Eidell, Executive Director
Appalachia Educational Laboratory
P.O. Box 1348
Charleston, WV 25325-1348
Phone: (304) 347-0400
(KY, NC, SC, TN, VA, WV)

Region V

Betty Matluck, Vice President
Southwest Educational Development Laboratory
211 East 7th Street
Austin, TX 78701-3281
Phone: (512) 476-6861
(AL, AR, GA, LA, MS)

Region VI

Minerva Coyne, Director
1025 West Johnson Street
University of Wisconsin
Madison, WI 53706
Phone: (608) 263-4326
(IA, MI, MN, ND, SD, WI)

Region VII

Dr. Hai Tran, Director
University of Oklahoma
1000 ASP, Room 210
Norman, OK 73019
Phone: (405) 325-2243
(IL, IN, KS, MO, NE, OK)

Region VIII

Maria Robledo Montecel, Executive Director
Intercultural Development Research Association
5835 Callaghan Road, Suite 350
San Antonio, TX 78228-1190
Phone: (210) 684-8180
(TX)

Region IX

Paul E. Martinez, Director
New Mexico Highlands University
121 Tijeras, NE, Suite 2100
Albuquerquem, NM 87102
Phone: (505) 242-7447
(AZ, CO, NM, NV, UT)

Region X

Carlos Sundermann, Director
Northwest Regional Educational Laboratory
101 Southwest Main Street, Suite 500
Portland, OR 97204
Phone: (503) 275-9479
(ID, MT, OR, WA, WY)

Appendix VI

U.S. Department of Education

Eisenhower Regional Mathematics and Science Consortia

The Eisenhower regional consortia grant projects work in conjunction with the Eisenhower National Clearinghouse to provide technical assistance and dissemination of information to aid individual teachers and States in implementing mathematics and science programs in accordance with State standards. Specific areas of assistance include teacher training, student assessment and uses of technology.

The Eisenhower Regional Alliance for Better School-Based Mathematics and Science Reform
Technical Education Resource Centers (TERC)
2067 Massachusetts Avenue
Cambridge, MA 02140
Phone: (617) 547-0430
FAX: (617) 349-3535
Mark Kaufman, Project director
Region: Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont, Puerto Rico and the Virgin Islands

The Mid-Atlantic Eisenhower Regional Consortium for Mathematics and Science Education
Research for Better Schools (RBS)
444 North Third Street
Philadelphia, PA 19123
Phone: (215) 574-9300 x 279
FAX: (215) 574-0133
Keith Kirschner, Project Director
Region: Delaware, Maryland, New Jersey, Pennsylvania and the District of Columbia

Southeast Mathematics and Science Regional Consortia
Southeastern Regional Vision for Education (SERVE)
Post Office Box 5367
Greensboro, NC 27435
Phone: (910) 334-3211
(800) 755-3277
FAX: (910) 334-3268
Roy H. Forbes, Project Director
Region: Alabama, Florida, Georgia, Mississippi, North Carolina and South Carolina

Eisenhower Regional Consortium for Mathematics and Science
Appalachia Educational Laboratory, Inc. (AEL)
1031 Quarrier Street
Charleston, WV 25325
Phone: (304) 347-0400/(800) 624-8120
FAX: (304) 347-0487
Pam Buckley, Project Director
Region: Kentucky, Tennessee, Virginia and West Virginia

The Midwest Consortium for Mathematics and Science Education
North Central Regional Educational Laboratory (NCREL)
1900 Spring Road, Suite 300
Oak Brook, IL 60521
Phone: (708) 218-1024
FAX: (708) 571-4716
Gil Valdez, Project Director
Region: Iowa, Illinois, Indiana, Michigan, Minnesota, Wisconsin and Ohio

The Eisenhower Consortium for Mathematics and Science Education
Mid-Continental Regional Educational laboratory (McREL)
2550 South Parker Road, Suite 500
Aurora, CO 80014
Phone: (303) 791-8292
FAX: (303) 337-3005
John Sutton, Project Director
Region: Colorado, Kansas, Missouri, Nebraska, North Dakota, South Dakota and Wyoming

Science and Mathematics Consortium for Northwest Schools (SMCNWS)
Columbia Education Center (CEC)
11325 SE Lexington
Portland, OR 97266-5927
Phone: (503) 760-2346
FAX: (503) 760-5592
Ralph Nelsen, Project Director
Region: Alaska, Idaho, Montana, Oregon and Washington

Far West Eisnehower Regional Consortium for Science and Mathematics Education (FWERC)
Far West Laboratory for Educational Research and development (FWL)
730 Harrison Street
San Francisco, CA 94107
Phone: (415) 241-2728
FAX: (415) 565-3012
Art Sussman, Project Director
Region: Arizona, California, Nevada and Utah

Eisenhower Southwest Consortium for the Improvement of Mathematics and Science Teaching
Southwest Educational Development Laboratory (SEDL)
211 East Seventh Street
Austin, TX 78701-3281
Phone: (512) 476-6861
FAX: (512) 476-2286
Wes Hoover, Project Director
Region: Arkansas, Louisiana, New Mexico, Oklahoma and Texas

Eisenhower Regional Consortium for Mathematics and Science Education
Pacific Region Educational Laboratory (PREL)
828 Fort Street Mall, Suite 500
Honolulu, HI 96813
Phone: (808) 533-6000 x 132
FAX: (808) 533-7599
Paul Dumas, Project Director
Region: Hawaii, American Samoa, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Republic of the Marshall Islands and the Republic of Palau

Appendix VII

U. S. Department of Education

Regional Technology in Education Consortia

The Department established the Regional Technology in Education Consortia (R-TEC) program in 1995 to help States, school districts and others use advanced technology to support improved student achievement. The R-TECs' role in educational technology is unique in two ways: their emphasis is regional, and their primary goal is to ensure that technology is used effectively to support school reform. R-TEC program strategies include professional development, technical assistance and information dissemination.

Northwest R-TEC Region

R-TEC Contact

Northwest Regional Educational Laboratory
101 S. W. Main Street, Suite 500
Portland, OR 97204-3297
Phone: (503) 275-9624
FAX: (503) 275-9584

Seymour Hanfling, Acting Director,
Technology Program

Region: Alaska, Idaho, Montana, Oregon, Washington and Wyoming

North Central R-TEC Region

R-TEC contact:

North Central Regional Technology in Education Consortium
North Central Regional Education Laboratory
1900 Spring Brook Road, Suite 300
Oak Brook, IL 60521-1480
Phone: (708) 218-1272
FAX: (708) 218- 4989

Rafael Ramirez, Director

Region: Illinois, Indiana, Iowa, Michigan, Minnesota, South Dakota, North Dakota and Wisconsin

Northeast R-TEC Region

R-TEC Contact:	NetTech - Northeast Regional Technology in Education Consortium City University of New York 555 West 57th Street New York, NY 10017 Phone: (212) 541-0972 FAX: (212) 541-0357 Bonnie Brownstein and Michael Ribaudo, Co-Directors
Region:	Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island and Vermont

Pacific/Southwest R-TEC Consortia

R-TEC Contact:	Southwest and Pacific Regional Technology in Education Consortium Center for Language Minority Education and Research c/o College of Education California State University, Long Beach 1250 Bellflower Boulevard Long Beach, CA 90840-2201 Phone: (310) 985-1570 FAX: (310) 985-4528 Kevin Rocap, Director
Region:	Arizona, California, Colorado, Hawaii, Nevada, New Mexico, Utah and the Territories

South Central R-TEC Region

R-TEC Contact	South Central Regional Technology in Education Consortium Center for Research on Learning University of Kansas Suite 2021 - Dole Human Development Building Lawrence, KS 66045 Phone: (913) 864-0710 FAX: (913) 864-4149 Jerry D. Chaffin and Ron Aust, Co-Directors
Region:	Kansas, Missouri, Nebraska, Oklahoma and Texas

Southeast & Islands R-TEC Region

R-TEC Contact:
SERVE, Inc.
P.O. Box 5406
Greensboro, NC 27412
Phone: (910) 334-3211
FAX: (910) 334-3268

Jean Williams, Co-Director for
Instructional Technology Programs

Region: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia, Puerto Rico and the Virgin Islands

Appendix VIII

NASA Teacher Resource Centers

(Need graph on the centers)

If you live in:		Contact:
Alaska Arizona Utah Hawaii Idaho Montana	Nevada Oregon California Washington Wyoming	NASA Ames Research Center Teacher Resource Center Mail Stop T12-A Moffett Field, CA 94035-1000 (415) 604-3574
California (Mainly cities near Dryden Flight Research Facility)		NASA Dryden Flight Research Facility Public Affairs Office (Trl. 42) Teacher Resource Center Edwards AFB, CA 93523-0273 (805) 258-3456
Connecticut Delaware District of Columbia Maine Maryland Massachusetts	New Hampshire New Jersey New York Pennsylvania Rhode Island Vermont	NASA Goddard Space Flight Center Teacher Resource Laboratory Mail Code 130.3 Greenbelt, MD 20771-1000
Virginia's and Maryland's Eastern Shores		NASA Goddard Space Flight Center Wallops Flight Facility Education Complex - Visitor Center Teacher Resource Lab Building J-17 Wallops Island, VA 23337-5099 (804) 824-2297/2298

Serves inquiries related to space and planetary exploration	NASA Jet Propulsion Laboratory Teacher Resource Center JPL Educational Outreach 4800 Oak Grove Drive Mail Code CS-530 Pasadena, CA 91109-8099 (818) 354-6916
If you live in:	Contact:
Florida Georgia Puerto Rico Virgin Islands	NASA John F. Kennedy Space Center Educators Resource Laboratory Mail Code ERL Kennedy Space Center, FL 32899-0001 (407) 867-4090
Colorado Kansas Nebraska New Mexico North Dakota Oklahoma South Dakota Texas	NASA Johnson Space Center Teacher Resource Center Mail Code AP 2 Houston, TX 77058-3696 (713) 483-8696
Kentucky North Carolina South Carolina Virginia West Virginia	NASA Teacher Resource Center for Langley Research Center Virginia Air and Space Center 600 Settler's Landing Road Hampton, VA 23669-4033 (804) 727-0900 ext. 757/ (804) 727-0800 ext. 757
Illinois Indiana Michigan Minnesota Ohio Wisconsin	NASA Lewis Research Center Teacher Resource Center Mail Stop 8-1 21000 Brookpark Road Cleveland, OH 44135-3191 (216) 433-2017
Alabama Arkansas Iowa Louisiana Missouri Tennessee	NASA Teacher Resource Center for Marshall Space Flight Center U.S. Space & Rocket Center P.O. Box 070015 Huntsville, AL 35807-7015 (205) 544-5812

Mississippi

NASA Stennis Space Center
Teacher Resource Center
Building 1200
Stennis Space Center, MS 39529-6000
(601) 688-3338

NASA Contacts by state

Alabama
Tri-State Learning Center
NASA Teacher Resource Center
P.O. Box 508
Iuka, MS 38852-0508
(601) 423-7455

Alaska
Alaska Science Center
NASA Regional Teacher Resource Center
Alaska Pacific University
4101 University Drive
Anchorage, AK 99508
(907) 564-8207

Arizona
Lunar and Planetary Lab
NASA Regional Teacher Resource Center
University of Arizona
Tucson, AZ 85721-0001
(602) 621-6939/6947

Arkansas
University of Arkansas-Little Rock
Natural Science Building, Room 215
2801 South University
Little Rock, AR 72204
(501) 569-3259

California
NASA Joaquin Valley Regional
Teacher Resource Center
California State University, Fresno
Mail Stop 01
5005 N. Maple Avenue
Fresno, CA 93740-0001
(209) 278-0355

Colorado
U.S. Space Foundation
NASA Regional Teacher Resource Center
2860 S. Circle Drive, Suite 2301
Colorado Springs, CO 80906-4184
(719) 576-8000

Delaware
Delaware Aerospace Center
Claymont Education Campus
NASA Regional Teacher Resource Center
3401 Green Street
Claymont, DE 19703
(302) 792-3806

District of Columbia
National Air and Space Museum
Smithsonian Institution
Education Resource Center, MRC-305
Washington, DC 30560
(202) 786-2109

University of the District of Columbia
NASA Regional Teacher Resource Center
Mail Stop 4201
4200 Connecticut Avenue, NW
Washington, DC 20008
(202) 247-6287

Georgia
Southern College of Technology/GYSTC
1100 S. Marietta Parkway
Marietta, GA 30060-2896
(404) 528-6272

Hawaii
Barbers Point Elementary School
NASA Regional Teacher Resource Center
Boxer Road
Barbers Point Naval Air Station
Ewa Beach, HI 96706
(808) 673-7410

Idaho
University of Idaho at Moscow
NASA Regional Teacher Resource Center
ID Space Grant College Fellowship
Program
College of Education
Moscow, ID 63843
(208) 885-6030

Illinois
Chicago Museum of Science and Industry
NASA Regional Teacher Resource Center
57th Street and Lakeshore Drive
Chicago, IL 60637-2093
(312) 684-1414, ext. 2426

Parks College of St. Louis University
NASA Regional Teacher Resource Center
Rt. 157 and Falling Springs Road
Cahokia, IL 62206
(618) 337-7500

Indiana
University of Evansville
NASA Regional Teacher Resource Center
School of Education, 1800 Lincoln
Avenue
Evansville, IN 47722
(812) 479-2393

Iowa
University of Northern Iowa
NASA Regional Teacher Resource Center
IRTS, Room 222
Schindler Education Center
Cedar Falls, IA 50614-0009
(319) 273-6088

Kansas
Kansas Cosmosphere and Space Center
NASA Regional Teacher Resource Center
1100 North Plum
Hutchison, KS 67501-1499
(316) 662-2305 or
1-800-397-0330

Kentucky
Murray State University
NASA Regional Teacher Resource Center
P.O. Box 9
University Library
Murray, KY 42071-0009
(502) 762-2850

Louisiana
Bossier Parish Comm. College
NASA Regional Teacher Resource Center
2719 Airline Drive
Bossier City, LA 71111
(318) 748-7754

Southern University - Shreveport
NASA Regional Teacher Resource Center
Downtown Metro Center
610 Texas Street
Shreveport, LA 71101
(318) 674-3444

Michigan
Central Michigan University
NASA Regional Teacher Resource Center
Ronan Hall, Room 101
Mount Pleasant, MI 48859
(517) 774-4387

Northern Michigan University
NASA Regional Teacher Resource Center
Olson Library Media Center
Marquette, MI 49655
(906) 227-2270

Oakland University
NASA Regional Teacher Resource Center
O'Dowd Hall, Room 216
Rochester, MI 48309-4401
(313) 370-2485/4230

Minnesota
Mankato State University
NASA Regional Teacher Resource Center
Department of Curriculum and Instruction
MSU Box 52/P.O. Box 8400
Mankato, MN 56002-8400
(507) 389-1516

St. Cloud State University
Center for Information Media
NASA Regional Teacher Resource Center
720 4th Avenue South
St. Cloud, MN 56301
(612) 255-2082

Mississippi
Mississippi Delta Community College
NASA Regional Teacher Resource Center
P.O. Box 668
Moorhead, MS 38761
(601) 246-5631, ext. 125

Tri-State Learning Center
NASA Teacher Resource Center
P.O. Box 058
Iuka, MS 38852-0508
(601) 423-7455

Montana
W. Montana College of the University of Montana
NASA Regional Teacher Resource Center
Carson Library
710 South Atlantic
Dillon, MT 59725
(408) 683-7541

Nebraska
University of Nebraska State Museum
NASA Regional Teacher Resource Center
14th & U Streets
307 Morrill Hall
Lincoln, NE 68588-0338
(402) 472-6302

University of Nebraska at Omaha
Mallory Kountze Planetarium
Durham Science Center, Room 144
60th and Dodge Street
Omaha, NE 68182-0266
(402) 554-2510

Nevada
Community College of Southern Nevada
NASA/Nevada Regional Teacher Resource Center
C2A
Learning Resource Center
Room 2100 F
3200 E. Cheyanne Avenue
North Las Vegas, NV 89030-4296
(702) 651-4505

New Mexico
New Mexico State University
NASA Regional Teacher Resource Center
New Mexico Space Grant Consortium
Box 30001, Department SG
Las Cruces, NM 88003-0001
(505) 646-6414

University of New Mexico
NASA Regional Teacher Resource Center
Continuing Education and Community Service
1634 University N.E.
Albuquerque, NM 87131-4006
(505) 277-3861

New York
The City College
NASA Regional Teacher Resource Center
Harris Hall, Room 109
Convent Avenue at 138th Street
New York, NY 10031
(212) 650-6993

North Carolina
University of North Carolina - Charlotte
NASA Regional Teacher Resource Center
J. Murray Atkins Library
Charlotte, NC 28223
(703) 547-2559

North Dakota
University of North Dakota
NASA Regional Teacher Resource Center
The Wayne Paterson Room
Clifford Hall - 5th Floor
Space Studies Department
P.O. Box 9008, University Station
Grand Forks, ND 58202-9008
(701) 777-4856 or
(800) 828-4274

Ohio
University of Cincinnati
NASA Regional Teacher Resource Center
Curriculum Resources Center Library
Mall Location 0219
600 Blegan Library
Cincinnati, OH 45221-0219
(513) 556-1430

Oklahoma
Oklahoma State University
NASA Aerospace Education Resource Center
308A CITD
Stillwater, OK 74078-0422
(405) 744-7009

Oregon
Oregon Museum of Science and Industry
NASA Regional Teacher Resource Center
Science Program Department
1945 SE Water Avenue
Portland, OR 97214-3354
(503) 797-4579

Pennsylvania
University of Pittsburgh
School of Education
Computer Curriculum Information Center
NASA Regional Teacher Resource Center
230 S. Boquet Street
Pittsburgh, PA 15260
(412) 648-7580/7558

Rhode Island
Rhode Island College
NASA Regional Teacher Resource Center
Curriculum Resources Center
600 Mt. Pleasant Avenue
Providence, RI 02908
(401) 456-8567/8065

South Carolina
Stanback Planetarium
NASA Regional Teacher Resource Center
P.O. Box 7636
South Carolina State University
Orangeburg, SC 29117-7636
(803) 536-8709/7174/8119

South Dakota
NASA Regional Teacher Resource Center
1925 Plaza Boulevard
Rapid City, SD 57702
(605) 394-1676

Tennessee
Tri-State Learning Center
NASA Teacher Resource Center
P.O. Box 508
Iuka, MS 38852-0508
(601) 423-7455

University of Tennessee at Martin
NASA Regional Teacher Resource Center
Center for Excellence in Mathematics and Science
Martin, TN 38238-5029
(901) 587-7191/7166

Texas
NASA Regional Teacher Resource Center
Education Service Center Region 12
P.O. Box 23409
Waco, TX 76702-3409
(817) 666-0707

Utah
Utah State University
College of Education
NASA Regional Teacher Resource Center
Logan, UT 84322-2845
(801) 797-3377

Weber State University
NASA Regional Teacher Resource Center
Curriculum Library
College of Education
Ogden, UT 84408-1302
(801) 626-7614/6279

Vermont
Norwich University
Vermont College Educational Resource Center
NASA Regional Teacher Resource Center
Schulmaler Hall
Montpelier, VT 05602
(802) 828-[illegible]845

Virginia
Radford University
NASA Regional Teacher Resource Center
P.O. Box 6999 Walker Hall
Radford, VA 24142
(703) 831-6284

Washington
University of Washington
NASA Regional Teacher Resource Center
AK-50, c/o Geophysics Department
Seattle, WA 98195
(206) 543-1943

West Virginia
Wheeling Jesuit College
NASA Regional Teacher Resource Center
316 Washington Avenue
Wheeling, WV 26003
(304) 243-2401

Wisconsin
University of Wisconsin at LaCrosse
NASA Regional Teacher Resource Center
Morris Hall, Room 200
LaCrosse, WI 54601
(608) 785-8148/8650

Wyoming
University of Wyoming
NASA Regional Teacher Resource Center
Learning Resource Center
P.O. Box 3374 University Station
Laramie, WY 82071-3374
(307) 766-2527

Appendix IX

ERIC Directory

The Educational Resources Information Center (ERIC), funded by the U.S. Department of Education, is a nationwide information network that acquires, catalogs, summarizes, and provides access to education information from all sources. The data base and ERIC document collections are housed in about 3,000 locations worldwide, including most major public and university library systems. ERIC produces a variety of publications and provides extensive user assistance, including **AskERIC**, an electronic question answering service for teachers on the Internet (askeric@ericir.syr.edu). The ERIC system includes 16 subject-specific clearinghouses listed below, the ERIC Processing and Reference facility, and ACCESS ERIC -- which provides introductory services. For more information call ACCESS ERIC at 800-LET-ERIC (1-800-538-3742).

The main address and phone number for ERIC is:

Educational Resources Information Center (ERIC)
U.S. Department of Education
Office of Educational Research and Improvement (OERI)
555 New Jersey Avenue NW
Washington, DC 20208-5720
Telephone: (202) 219-2289
Internet: eric@inet.ed.gov

Clearinghouses

Adult, Career, and Vocational Education
The Ohio State University
1900 Kenny Road
Columbus, OH 43210-1090
Toll Free: (800) 848-4815
Telephone:(614) 292-4353
Internet: ericacve@magnus.acs.ohio-state.edu

Assessment and Evaluation
The Catholic University of America
210 O'Boyle Hall
Washington, DC 20064
Toll Free: (800) 464-3742
Telephone: (202) 319-5120
Internet: eric_ae@cua.edu

Community Colleges
University of California at Los Angeles
3051 Moore Hall
Los Angeles, CA 90024-1521
Toll Free: (800) 832-8256
Telephone: (310) 825-3931
Internet: eeh3usc@mvs.oac.ucla.edu

Counseling and Student Services
University of North Carolina at Greensboro
School of Education
101 Park Building
Greensboro, NC 27412-5001
Toll Free: (800) 414-9769
Telephone: (919) 334-4114
Internet: bleuerj@iris.uncg.edu

Disabilities and Gifted Education
Council for Exceptional Children
1920 Association Drive
Reston, VA 22091-1589
Toll Free: (800) 328-0272
Telephone: (703) 264-9474
Internet: ericec@inet.ed.gov

Educational Management
College of Education
5207 University of Oregon
Eugene, OR 97403-5267
Toll Free: (800) 438-8841
Telephone: (503) 346-5043
Intemet: ppiele@oregon.uoregon.edu

Elementary and Early Childhood Education

University of Illinois
805 West Pennsylvania Avenue
Urbana, IL 61801-4897
Toll Free: (800) 583-4135
Telephone: (217) 333-1386
Internet: ericeece@ux1.cso.uiuc.edu

Higher Education
The George Washington University
One Dupont Circle NW, Suite 630
Washington, DC 20036-1183
Toll Free: (800) 773-3742
Telephone: (212) 296-2597
Internet: eriche@inet.ed.gov

Information & Technology
Syracuse University
4-194 Center for Science and Technology
Syracuse, NY 13244-4100
Toll Free: (800) 464-9107
Telephone: 315) 443-3640
Internet: eric@ericir.syr.edu
AskERIC (Intemet-based question-answering
service): askeric@ericir.syr.edu

Languages and Linguistics
Center for Applied Linguistics
1118 22nd Street NW
Washington, DC 20037-0037
Toll Free: (800) 276-9834
Telephone: 202) 429-9292
Internet: eric@cal.org

Reading, English, and Communication
Indiana University
Smith Research Center, Suite 150
2805 East 10th Street
Bloomington, IN 47408-2698
Toll Free: (800) 759-4723
Telephone: 812) 855-5847
Internet: ericcs@ucs.indiana.edu

Rural Education and Small Schools
Appalachia Educational Laboratory
1031 Quarrier Street
P.O. Box 1348
Charleston, WV 25325-1348
Toll Free: (800) 624-9120
Telephone: 304) 347-0400
Internet: ericrc@ael.org

Science, Mathematics, and Environmental Education
The Ohio State University
1929 Kenny Road
Columbus, OH 43210-1080
Toll Free: (800) 276-0462
Telephone: 614) 292-6717
Internet: ericse@osu.edu

Social Studies/Social Science Education
Indiana University
Social Studies Development Center
2805 East 10th Street, Suite 120
Bloomington, IN 47408-2698
Toll Free: (800) 266-3815
Telephone: 812) 855-3838
Internet: ericso@ucs.indiana.edu

Teaching and Teacher Education
American Association of Colleges for Teacher Education
One Dupont Circle NW, Suite 610
Washington. DC 20036-1186
Toll Free: (800) 822-9229
Telephone: 202) 293-2450
Internet: ericsp@inei.ed.gov

Urban Education
Teachers College, Columbia University
Institute for Urban and Minority Education
Main Hall, Room 303, Box 40
525 West 120th Street
New York, NY 10027-6696
Toll Free: (800) 601-4868
Telephone: 212) 679-3433
Internet: eric-cue@columbia.edu

Adjunct Clearinghouses

Art Education
Indiana University
Social Studies Development Center
2805 East 10th Street, Suite 120
Bloomington, IN 47408-2373
Toll Free: (800) 266-3815
Telephone: 812) 855-3838
Internet: ericso@ucs.indiana.edu

Chapter 1 (Compensatory Education)
Chapter 1 Technical Assistance Center
PRC, Inc.
2601 Fortune Circle East
One Park Fletcher Building, Suite 300-A
Indianapolis, IN 46241-2237
Toll Free: (800) 456-2380
Telephone: (317) 244-8160

Clinical Schools
American Association of Colleges for Teacher Education
One Dupont Circle NW, Suite 610
Washiniton, DC 20036-1186
Toll Free: (800) 822-9229
Telephone: 202) 293-2450
Internet: iabdalha@inet.ed.gov

Consumer Education
National Institute for Consumer Education
207 Rackham Building, West Circle Drive
Eastern Michigan University
Ypsilanti, MI 48197-2237
Toll Free: (800) 336-6423
Telephone: 313) 487-2292
Internet:nice@emuvax.emich.edu

ESL Literacy Education
Center for Applied Linguistics
1118 22nd St. NW
Washington, DC 20037
Telephone: (202) 429-9292, Ext. 200
Internet: ncle@cal.org

Law-Related Education
Indiana University
Social Studies Development Center
2805 East 10th Street, Suite 120
Bloomington. IN 47408-2698
Toll Free (800) 266-3815
Telephone: 812) 855-3838
Internet: ericso@ucs.indiana.edu

Test Collection
Educational Testing Service
Rosedale Road
Princeton, NJ 08541
Telephone: 609) 734-5737
Internet:mhalpem@rosedale.org

U.S.-Japan Studies
Indiana University
Social Studies Development Center
2805 East 10th Street, Suite 120
Bloomington, IN 47408-2698
Toll Free: (800) 266-3815
Telephone: 812) 855-3838
Internet: eabrooks@ucs.indiana.edu

Support Components

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Rockville, MD 20850-3172
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Toll Free: (800) 443-ERIC (3742)
Telephone: 703) 440-1400
Internet: edrs@inet.ed.gov

ERIC Processing and Reference Facility
CSC Systems Engineering Division
1301 Piccard Drive, Suite 300
Rockville, MD 20850-4305
Toll Free: (800) 799-ERIC (3742)
Telephone: 301) 258-5500
Internet: ericfac@inet.ed.gov

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Toll Free: (800) 279-ORYX (6799)
Telephone: 602) 265-2651
Fax: 800) 279-4663; (602) 2654250
Internet: info@oryxpress-com

To order *Resources in Education,* contact:

United States Government Printing Office (GPO)
Superintendent of Documents
P.O. Box 371954
Pittsburgh, PA 15250-7954
Telephone: 202) 783-3238
Fax: (202) 512-2250

Appendix X

A REPORT OF THE GOAL 4 RESOURCE GROUP

TEACHER EDUCATION AND PROFESSIONAL DEVELOPMENT

NATIONAL EDUCATION GOALS PANEL

JULY 1995

Goal 4: Teacher Education and Professional Development

By the year 2000, the nation's teaching force will have access to programs for the continued improvement of their professional skills and the opportunity to acquire the knowledge and skills needed to instruct and prepare all American students for the next century.

Objectives:

All teachers will have access to preservice teacher education and continuing professional development activities that will provide such teachers with the knowledge and skills needed to teach to an increasingly diverse student population with a variety of educational, social, and health needs.

All teachers will have continuing opportunities to acquire additional knowledge and skills needed to teach challenging subject matter and to use emerging new methods, forms of assessment, and technologies.

States and school districts will create integrated strategies to attract, recruit, prepare, retrain, and support the continued professional development of teachers, administrators, and other educators, so that there is a highly talented work force of professional educators to teach challenging subject matter.

Partnerships will be established, whenever possible, among local educational agencies, institutions of higher education, parents, and local labor, business, and professional associations to provide and support programs for the professional development of educators.

Introduction

While there are many ingredients for successful school reform, it all comes down to the classroom teacher. Indeed, the success of the entire school reform movement is dependent upon teachers acquiring the skills, perspectives and knowledge necessary to transform the learning of all students. However, because we only now fully appreciate the ways of teaching complex subject matter to diverse students, many of our current teachers remain under- or unprepared. Insufficient or inadequate preservice and inappropriate or incoherent in-service teacher education retard the effort to realize the National Education Goals.

Linda Darling-Hammond, a member of the Goal 4 Resource Group, presented a number of items in a recent publication (*The Current Status of Teaching and Teacher Development in the United States*, November, 1994) that reinforces the importance of Goal 4. For example:

- Given the fact that fully half of the teachers who will be teaching in the year 2005 will be hired over the next decade, this is a critical historical moment for transforming the capacity of the American teaching force by transforming the quality of their preparation.
- While a growing number of teachers are prepared in rigorous courses of study including intensive internships, the majority are still prepared in underfunded undergraduate programs that are treated as "cash cows" by their universities.
- Despite current efforts to raise licensing standards for new teachers, more than one in four new hires in 1991 held either a substandard certificate or none at all.
- One-third or more of all new teachers assigned to teach mathematics, science, social studies, physical education, and special education were neither certified nor eligible for certification in those fields.
- Fully one in five public school teachers reported in 1987-88 that they were not teaching in the area in which they felt best qualified.
- Inner-city high school students in high-minority schools have a 50 percent chance of being taught by a qualified mathematics or science teacher.
- While the function of teacher preparation is increasingly seen as empowering teachers to own, use, and develop sophisticated knowledge about teaching and learning, a great many systemic changes are needed for this view to become widespread in preservice and in-service development.

National school reform will be thwarted without serious attention to Goal 4. Substantial investment in helping teachers gain new knowledge and beliefs about content, pedagogy, student learning and the ability to engage in critical reflection is essential. Goal 4 encompasses both dimensions in its statement of intent and purpose. It is a statement that calls for all teachers to have access to teacher development programs following opportunities to acquire, through rigorous and high quality preservice programs, skills, perspectives and knowledge to teach diverse learners.

The Resource Group accepts the Education Department's definition of Professional Development as including "the rigorous and relevant strategies and organizational supports that ensure the career-long development of teachers and other educators." It envisions Professional Development as encompassing both preservice and in-service education.

The Resource Group accepts the strategy that is conveyed in Goal 4. It holds that all teachers need to be prepared through intellectually rigorous preservice programs that demand mastery of content, in-depth knowledge of pedagogy, and broad understanding of diverse learners. Such beginning teachers, it believes, should be prepared in academically rich programs, that are field oriented and require sufficient time and other resources to enable preservice teacher candidates to develop their individual capacity and to learn and work together. The Resource Group believes beginning teachers should have the opportunity to progress through well-organized induction/internship programs, conducted in the increasing number of professional development or partner schools. These activities must occur before teachers are required to assume full responsibility for the learning of students, or partner schools, before being required to assume full responsibility for the learning of students.

Throughout their practice as full professionals, teachers should have access to meaningful ongoing and relevant professional development that deepens their understanding of the process of teaching and learning and of the students they teach. This conception of lifelong or continuous professional development rejects old norms and outmoded paradigms. It calls for integrated and systemic strategies that link together all facets of professional development to facilitate long-term and meaningful teacher practices. It also calls for new forms of partnerships to build capacity among teachers and other school professionals.

Centrality of the Role of the Teacher

While the role of the school principal and other school professionals is critical for the successful transformation of schools, the attainment of the National Education Goals is primarily dependent upon effective teacher-student interactions. The interactions that occur between student and teacher, the opportunities for students to construct knowledge, the modeling of appropriate behavior by teachers, the setting of high and rigorous expectations, the existence of a supportive classroom environment, the use of results-driven practices and performance-based assessment systems, are dependent upon skilled, knowledgeable and compassionate teachers. The support and/or leadership provided by other school personnel is important; the role of the teacher, however, is central.

Importance of High Quality Preservice and Teacher Development Programs

The task of learning to teach is challenging; it is difficult and demanding to learn to teach all children, to respond to their needs and aspirations. Transforming subject matter into age appropriate concepts, instructing students using appropriate pedagogical methods, assessing their accomplishments using new forms of performance assessment, requires more than casual acquaintance with new knowledge. Sustained and rigorous preparation, with sufficient teaching and learning in real school situations, is a requirement for the types of teachers necessary to transform schools. This is not something to be learned in a casual way through limited orientation experiences.

New forms of teacher development are needed to sustain the knowledge and skill brought to the initial teaching assignment. Such professional development is continuous, sustainable, site-based, context driven, focused on student learning and designed to promote school wide innovation and change. It's focus is on both the individual teacher and the whole-school faculty and staff. From previous research on school change, we know that such forms of teacher development can result in transformed schools and improved student achievement.

Impact on Student Achievement

While a number of studies have documented the potential of teacher development for transforming schools, few of these studies have attempted to measure the impact of particular forms of teacher development upon student achievement.

Intuitively, we know that helping teachers master new and challenging knowledge and skills directly related to student learning will produce improvements in student learning. Similarly, meta-analyses of the influence of preservice teacher education programs on effective teaching provide ample documentation of the positive effects of high quality teacher education programs. However, there is the absence of research findings that correlates successful completion with student achievement gains.

Interrelationship of Goal 4 to School Reform

If one accepts the role of the teacher as central in the effort to transform schools, then the successful implementation of Goal 4 should produce positive benefits in raising student performance and improving schools. More than fifty years of American education history offer sufficient evidence of the futility and failure of trying to by-pass teachers in the reform of schools. So-called "teacher proof" curricula and materials have always failed. The teacher's presence is central in the reform of schools; the quality of the preservice and teacher development programs is a key ingredient in the implementation of reform strategies.

Interrelationship of Goal 4 to Other National Education Goals

High quality teachers and teaching, supported by effective principals, are essential to achieving the eight goals. Thus, without hesitation, the Resource Group asserts that Goal 4 is worthy of high priority as the nation moves ahead in meeting the National Education Goals.

Recommendations for the 1995 Goals Panel Report

Data Sources

After conducting an extensive data search, it was determined that the data available to the Schools and Staffing Survey (SASS) would be the main source of national data. Fortunately, the SASS Survey provides the needed state data in addition to presenting information from a national perspective. The SASS Survey is conducted by the National Center for Education Statistics. The Goals Panel will continue to seek additional data sources.

Recommended Indicators

While this first set of indicators does not represent the full scope and intent of Goal 4, they disclose interesting data regarding the preparation of aspiring teachers and the current status of professional development being provided for those persons currently serving in schools. We anticipate succeeding reports being more comprehensive regarding Goal 4 and its objectives.

The following ten indicators are recommended for inclusion in the 1995 National Education Goals Panel Report:

Indicator 1. Teacher Preparation

> *The percentage of teachers who held undergraduate or graduate degrees in their main teaching assignments, 1994.*

The Resource Group believes that proper teacher preparation and teaching assignments, which are commensurate with the training, are essential if there is to be a reasonable chance of increasing student learning. This indicator reports the percentage of teachers who majored in nine different subjects and have been assigned to teach the subject in which they majored. The subjects chosen for this indicator are: mathematics, science, English, history, geography, fine arts, foreign languages, civics/government and economics.

Indicator 2. **Teacher Licensure in Main Teaching Assignment**

> *Percentage of secondary teachers who held a teaching credential in their main teaching assignment.*

An essential factor related to effective teaching, is the matter of teachers being properly credentialed for their main teaching assignment. Thus, our goal is to have 100 percent of the nation's teachers properly credentialed.

This indicator lists (non-inclusive) eleven subjects: mathematics, science, English, history, geography, fine arts, foreign languages, civics/government, economics, bilingual education (English as second language) and special education.

Indicator 3. **Support for Professional Development**

> *Percentage of teachers who reported they received various types of support during the current school year for in-service education or professional development in their main teaching assignment field.*

The Resource Group believes little professional growth among teachers will occur without the active support of building principals, superintendents, school boards and parents. This support should include a review of current policies and practices and a concerted effort to increase overall public support and awareness.

This indicator measures support given through, released time from teaching schedule, travel and per diem expenses, tuition and/or fees, and professional growth credits.

The indicator also measures the amount of support provided to beginning teachers, teachers with 4 to 10 years of experience and those with more than 10 years of experience.

Indicator 4. **Support through Formal Teacher Induction Programs**

> *The percentage of teachers who reported that during their first year of teaching, they participated in a formal teacher induction program to help beginning teachers by assigning them to master or mentor teachers.*

Frequently, new teachers are put into "sink or swim" situations with nothing more than student teaching experiences on which to rely. New teachers should have frequent opportunities to learn from experienced and successful teachers who have proven their excellence. This means providing time and materials for the experienced and new teachers to meet and develop strategies for increasing teaching skills and improving student learning.

This indicator examines teacher induction at the elementary, junior high/middle school, and high school levels.

Indicator 5. Participation in Professional Development Activities on Selected Topics

Percentage of teachers who reported they participated in various in-service or professional development programs since the end of the previous school year.

We believe the relevancy of professional development activities is important. The activities included in this indicator are: Uses of educational technology; methods of teaching subject field; in-depth study in subject field and student assessment. The indicator also shows the percentage of teachers who participated according to length of service i.e. beginning teachers, 4 to 10 years of experience and those with more than 10 years of experience.

Indicator 6. Temporary or Emergency Teacher Licensing

Percentage of teachers who reported they were teaching with a temporary license, emergency license or a waiver.

These conditions portend less than desirable, teaching capabilities and student learning experiences. Quite frequently, these temporary licensed teachers serve in schools especially in many urban and rural areas, where the best teaching possible is needed.

Research literature continues to indicate that there are a considerable number of teachers who are teaching thousands of students while holding only temporary licenses, emergency certificates or waivers. We are anxious to see these numbers reduced and eventually eliminated.

The indicator displays the percentages by school levels (elementary, junior high and secondary) and in the fields in which shortages have been known to exist in the past (mathematics, science, bilingual education/English as a second language and special education).

Indicator 7. Participation in Types of Professional Development Activities

Percentage of teachers who reported they participated in various activities related to teaching since the end of the previous school year.

It is essential that large percentages of teachers, if not all, participate in professional development activities. However, the participation should not be just for the sake of participation. These activities should lead to increased knowledge and skills that promote increased student learning.

This indicator reports the percentage of teachers who participated in workshops, college courses, and activities sponsored by professional associations. The indicator also presents the percentage of all teachers, included in the sample, who participated in professional development activities. In addition, it shows the percentage of beginning teachers, those with 4 to 10 years of experience and teachers with more than 10 years of experience who participated in these professional development activities.

Indicator 8. Teacher Assignment

> *The percentage of teachers who reported that their main assignment was not the field they felt best qualified to teach.*

Teachers should be assigned to teach subjects for which they have been adequately prepared and are qualified to teach.

This indicator reports the percentage of teachers who believe they are not teaching the field for which they are best qualified. This does not necessarily mean that the teachers are not licensed to teach the subjects they are currently teaching. However some, because of recent training and experiences, bring new talents and skills to the work place and are not able to use them. Others, licensed in several subjects, have had to choose their weakest area in order to gain employment.

The subjects listed in this indicator are: mathematics, science, English, history, geography, fine arts, foreign languages, civic/government and economics.

Indicator 9. Teacher Influence over School Policy

> *The percentage of teachers who reported that teachers in their schools have influence over school policy in selected areas.*

Engaging teachers in policy and decision-making processes has been viewed as important and essential to school improvement for many years. However, true collaboration among teachers and administrators in developing professional development activities that enhance the teaching and learning process, remains a challenge.

This indicator shows the percentages of teachers who reported they had a great deal of influence over determining context of in-service programs and establishing curriculum. The indicator also reports teacher responses according to school level (elementary, junior high/middle school) and setting (urban, suburban, and rural).

Indicator 10. Preparation to Teach Limited English Proficient (LEP) Students

> *Percentage of teachers who reported limited English proficient students are enrolled in their classes and the percentage who reported they have received training to teach LEP students.*

The increasing ethnic diversity among student population in the nation's schools is well documented. New and experienced teachers in all schools must have access to professional development activities that will promote cultural understanding and assist them in developing teaching strategies that will increase student learning.

This indicator reports the percentages by school level (elementary, junior high/middle, and high school) geographical setting (urban, suburban, and rural) and teaching experience (beginning, 4 to 10 years and more than 10 years).

Core Report Indicators

The Resource Group selected two indicators to be included in the National Education Goals Panel Core Report:

Indicator 5. Participation in Professional Development Activities on Selected Topics

Indicator 6. Temporary or Emergency Teacher Licensing

Future Data Needs

The selection of the indicators to be included in the 1995 National Goals Panel Report, was based on availability of data and their relevancy to Goal 4 and its objectives. While an extensive data search was conducted, most, if not all of the data that truly represented a national survey, will come from the 1994 Schools and Staffing Survey conducted by the National Center for Education Statistics. The Resource Group is aware of the data gaps that exist and make the following observations and recommendations that should lead to new or revised indicators in future annual reports:

☐ ***The matter of equity regarding the number of teachers having full access to high quality professional development activities should be reported.***

The Resource Group believes all teachers should have opportunities to improve their teaching skills and gain additional knowledge in their subject area. Having the time and financial support to engage in professional development activities must not be limited to those teachers who happen to work in affluent school districts.

☐ ***More attention should be paid to the education, placement and professional development of elementary teachers.***

Most of the existing data examines the training and placement of secondary school teachers. While this is important, it is equally important to examine and record the curriculum content and the overall preparation of elementary teachers.

☐ ***There is a need to measure the amount of professional development that occurs at the college level.***

The Resource Group is aware of Goal 4's emphasis on professional development for K through 12 teachers and other educators. However, there was general agreement that the "teachers of teachers" should be just as up-to-date, regarding their teaching strategies and the overall preparation of prospective teachers, as those who serve in the nation's schools.

☐ ***Collaboration between states and school districts in recruiting, educating, placing and retaining teachers remains a national challenge.***

Several organizations have worked diligently to identify and recruit people into the teaching profession. However, it is somewhat unclear as to what happens to those who have expressed interest in teaching at a time when many urban and rural school districts continue to have shortages of appropriately prepared teachers.

Objective #3 under Goal 4 suggest states and school districts create integrated strategies to attract, recruit, prepare, retain, and support the continued professional development of teachers, administrators and other educators, so that there is a highly talented work force of professional educators to teach challenging subject matter. Thus, it is important that the Goals Panel seek to measure progress related to all of the areas listed in this objective.

☐ ***Partnerships that provide and support programs for the professional development of educators should be established.***

A great deal of education reform literature encourages the establishment of partnerships that will promote community stakeholders' involvement and support of schools and professional development programs for educators. The fourth objective in Goal 4 supports this approach.

An indicator that shows the percentages of schools and school districts that are engaged in partnerships that support programs for the professional development of educators would be appropriate.

☐ ***Measurement of the quality of professional development activities in relationship to increased teaching skills and student learning.***

The indicators recommended in this report give little attention to the measurement of the quality of the activities, policies and procedures. Therefore, there is a need to determine if teachers enhance their teaching skills and students learn more because of teachers' participation in professional development activities.

The Resource Group recommends that a quality component be added to the appropriate indicators.

Monitoring Promising Goal 4 Related Activities

As the nation engages in school reform, several refined and new initiatives are emerging as critical elements of sustained improvement of teacher education and professional development. These initiatives address areas such as:

Teacher Education

The Resource Group believes new levels of excellence and new strategies for preparing teachers to function at high levels, with all students, must exist in all institutions of higher learning. This means the faculties of the nation's colleges and universities must assess themselves and determine if they are really preparing their students to teach in a more complex and diverse country and world. Schools of education should be able to document the professional development activities in which their faculties have participated and how those activities are expected to enhance their teaching so that they may better prepare future teachers.

The Resource Group spent considerable time debating the merits of including as an indicator the number of schools and colleges of education that are nationally accredited and/or the number of beginning teachers who gradate form accredited institutions. Given the fact that only 40 percent of the nation's schools and colleges of education are nationally accredited, the Resource Group chose not to include this indicator at this time.

National accreditation for teacher education remains a voluntary system of professional judgment about the quality of the entire school or college of education in a higher education institution. The National Council for Accreditation of Teacher Education (NCATE) is the body recognized by both the U.S. Department of Education and the Council for Recognition of Postsecondary Accreditation as the agency to review and recognize schools and colleges of education. NCATE expects its voluntary accredited schools of education to "ensure that prospective teachers have the knowledge and skills they need to work effectively with all students". Some of the skills these prospective teachers must demonstrate are:

- Use of strategies for developing critical thinking/problem-solving
- Use of formal and informal evaluation strategies to ensure continuous student learning
- Use of computers and other technologies for student learning and evaluation
- Classroom management
- Collaboration with parents and others in the community
- Ability to select teaching strategies appropriate to subject matter and student needs.

Teacher Competency and Professional Development

Educators and policy workers should also examine the national efforts to identify highly accomplished teaching and to establish high standards of performance to which all teachers should aspire.

The work of the National Board for Professional Teaching Standards (NBPTS) holds promise for identifying and recognizing excellent teaching through its national certification program. NBPTS in addition to establishing standards in numerous subject areas that suggest what teachers should know and be able to do, assesses teachers' competencies and certifies those who meet the NBPTS standards. This voluntary certification program uses many forms of assessment such as: portfolios that document teachers' work, video tapes of lessons taught, interviews, and samples of student work.

NBPTS indicates it seeks to identify and recognize teachers who effectively enhance student learning and demonstrate the high level of knowledge, skills, disposition and commitments reflected in the following core propositions:

- Teachers are committed to students and their learning.

- ☐ Teachers know the subjects they teach and how to teach those subjects to students.
- ☐ Teachers are responsible for managing and monitoring student learning.
- ☐ Teachers think systematically about their practice and learn from experience.
- ☐ Teachers are members of learning communities.

The process teachers go through in preparing for National Board certification is commonly viewed as a significant professional development experience.

The Resource Group suggests that indicators that show the number of teachers who are seeking to become Board Certified and the number of school districts who are supporting teachers who are seeking National Board certification, be considered for future Goals Panel reports.

Summary

The Resource Group joins the National Governors' Association in believing that:

> "Reforming the nation's schools takes more than solely adopting higher achievement standards for students. Improving the education system will require highly skilled educators capable of teaching the content skills established by the reform initiatives. Professional development for educators, within a context of standards-driven systemic reform should be top priority."

High quality teacher education and professional development are essential components of any national systemic education reform effort. It is with this sense of importance that the Teacher Education and Professional Development Resource Group submits this report to the National Education Goals Panel.

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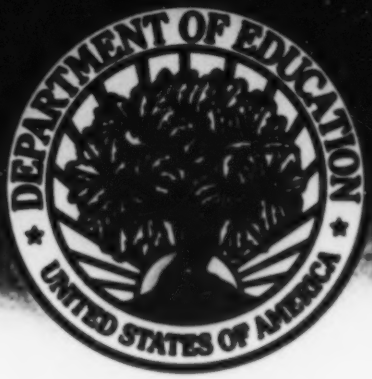
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